# Fifth Biennial Report

OF THE

# State Board of Health

OF

# MONTANA

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SECOND BIENNIAL REPORT

OF THE

## State Registrar of Births and Deaths

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## 1909 and 1910

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THOS. D. TUTTLE, M. D., Secretary

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INDEPENDENT PUBLISHING COMPANY, HELENA, MONTANA

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## MEMBERSHIP OF THE MONTANA STATE BOARD OF HEALTH.

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## DEPARTMENT OF PUBLIC HEALTH OF THE STATE OF MONTANA.

### OFFICE OF THE SECRETARY.

Helena, Mont., December 10, 1910.

Hon. Edwin L. Norris, Governor,
Helena, Mont.

Sir—In compliance with the provisions of the Laws of Montana, I hand you herewith the report of the State Board of Health of Montana, and the report of the Secretary of said Board as State Registrar of Births and Deaths.

Respectfully submitted,

THOS. D. TUTTLE, M. D.,
Secretary.

CONTENTS.

# Needed Legislation.

After four years' experience with our present Public Health Laws, it has been found that a few sections in the law, while intended to produce the desired results, are impractical in their actual workings.

The first of these to which I would call your attention is Section 1484, Revised Codes of Montana, 1907. This section provides in brief that each incorporated town must appoint a local board of health, or place itself by written notice under the care of the County Board of Health, and that municipal authorities shall designate the salary to be paid the local health officer.

It further provides that when an incorporated town fails to appoint a local board of health within a specified time, then the State Board of Health may appoint a health officer for such town. This seems to be all that could be desired, but as a matter of fact, it works out in the following manner.

The mayor of the newly incorporated town, or even a town that has been incorporated for some time, is notified of the requirements of the law in regard to a board of health. He pays no attention to the notice. Another notice is sent him with like results. The State Board of Health then proceeds with the question of appointing a health officer for this town. But the question is raised, what shall be the salary of this health officer. We find that no provision is made for the State Board of Health to designate the salary for the health officer, and further than this, in one instance the practical workings were as follows:

We found a competent man willing to act as health officer for a small town without compensation. This man was appointed by the State Board of Health. Within a few days the mayor and common council of the town appointed another man as health officer and declared the term of office of the appointee of the State Board of Health expired.

This section should be so amended that the State Board of Health would have authority to appoint a health officer under

like circumstances and designate his salary and term of office.

Section 1485 attempts to designate the maximum salary of local health officers, but this section is so worded that it designates the salary of a local (city) health officer in counties of various classes and does not designate the maximum salary of the county health officer.

If the maximum salary of any health officer is to be designated, the law should be so worded as to designate the salary of a local health officer in a city of a certain class and of the county health officer in a county of a certain class.

In this same section (1485) the State Board of Health is given "supervisory control" of all local and county boards of health. The question arises, just what is supervisory control? From a practical standpoint it comes down to being simply advisory. In other words, the State Board of Health may and does advise and even order that certain action be taken by a local or county board of health. If this action is taken and the desired results fail to accure, then local or county board says: "This was not our action, it was the action of the State Board of Health." On the other hand, if the desired results are forthcoming, the local board will simply say: "This is the result of our action." But the local or county boards of health are not required to absolutely comply with the orders of the State Board of Health, at least the State Board of Health has no power to require them to do so.

Local and county health officers are appointed respectively by the muncipal authorities and the board of county commissioiners acting as a County Board of Health. In the majority of instances this has resulted in securing good health officers, and let me state here that the following statement is not intended to be construed as condemning health officers in this State. With very few exceptions these are excellent men, but the few exceptions can undo all the good work accomplished by the competent men. The appointment of the health officer should not be a matter of political preferment, neither should it be a matter of securing the cheapest man without regard to his ability. Protection of the public health has become a science, and in order to have a man to carry out this work successfully he must make a study of the subject, and a man whose appointment depends solely upon political preferment, or upon the cheapness of his work, will not devote his time to

such study. It is therefore respectfully suggested that appointment of all local and county health officers be made subject to the approval of the State Board of Health.

Section 1500 attempts to define the term "Communicable Diseases." This section includes certain communicable diseases, but it does not include all known communicable diseases. For instance, it does not include tuberculosis, which has long been known to be a communicable disease. Neither does it include mumps, which was known to be a communicable disease long before any of us were born, and other diseases are likewise omitted. Further, we are constantly learning that diseases heretofore not known to be communicable are in reality communicable diseases. For instance, it has only recently become known that infantile paralysis (Acute Anterior Poliomyletis) is a most communicable disease and also a most fatal disease. This and other diseases should certainly be classed as communicable diseases in this State. In other words, this section should be made to include all known communicable diseases and should further provide that the State Board of Health be authorized to add to this list such diseases as may from time to time become known to be communicable diseases.

Section 1766, Revised Codes of Montana, 1907, relative to the registration of births and deaths, provides in part as follows: "And when it may appear necessary for the convenience of the people of any locality, the State Registrar is hereby authorized, with the approval of the State Board of Health, to appoint one or more suitable and proper persons to act as subregistrars, who shall be authorized to receive certificates, and to issue burial and removal permits in and for such portions of the county or district as may be designated in their appointments * * * ." This section (a portion of a law drafted for all states) contemplates that there will not only not be any difficulty in securing persons to act as local registrars or subregistrars, but there will actually be applicants for such positioins. As a matter of fact, it is impossible to secure competent persons to act as registrars in isolated districts, and in order to perform the requirements of the law relative to the registration of births and deaths it is absolutely necessary that we have competent registrars in such isolated districts.

It is therefore suggested that this section be amended so as to require justices of the peace to act as registrars in various

districts when called upon to do so by the State Registrar. Indeed this very action was taken by the last Legislature, but as the result of a typographical error in drafting the bill, the amendment was made to apply to the wrong section, and had the amendment been approved the section providing for the registration of births and deaths would have been repealed. This error was detected by the Governor, and he therefore very properly vetoed the bill.

Conditions existing in the law relative to the protection of water supplies are discussed under the subject "Protection of Public Water Supplies."

We would again respectfully recommend the pasage of a law providing for the physical examination of school children by a competent physician and surgeon.

Finally we would again urge upon the legislators of this State the importance of a pure food law. It is known to many of you that Montana is a dumping ground for impure and adulterated foods and drugs. The importance of protecting our food supply seems to need no argument, and it is therefore left to the intelligent consideration of the legislators of this State.

# Rocky Mountain Spotted (Tick) Fever.

In 1909 the Legislature of Montana appropriated six thousand dollars for the purpose of paying the expenses of Dr. H. T. Ricketts in following up his investigations into the cause of Rocky Mountain Spotted (Tick) Fever. In the spring of 1909 Dr. Ricketts was prepared to proceed with this work, but it was found that this money was not available at that time. However, certain citizens of Missoula advanced the sum of one thousand dollars, which enabled Dr. Ricketts to proceed with the collection of a few specimens, and to carry on some laboratory work in the city of Chicago in connection with this investigation.

Early in the fall of 1909, the money still not being available in Montana, and expense money being available for other investigations, Dr. Ricketts took up the study of what is known as Mexican Typhus Fever. This study was really a part of his investigations of Rocky Mountain Spotted (Tick) Fever, it having been asserted by some that these two diseases were identical.

In December, 1909, the money for carrying on the investigation in Montana was made available, and Dr. Ricketts was notified to this effect. He immediately made arrangements to carry on laboratory work in Chicago, through assistants, and to have an assistant come into the Montana field as soon as the spring opened up sufficiently to prosecute the work. Dr. Ricketts was at this time himself engage in the study of the Typhus Fever of Mexico, and was unable to discontine this work immediately. It was his intention to come to Montana and continue the study of the fever in the Bitter Root Valley the first of May, 1910. During the last week of April, 1910, Dr. Ricketts was stricken with the Typhus Fever, from which disease he died on May 12th, 1910.

With the death of Dr. Ricketts the investigation into Spotted Fever in the Bitter Root Valley had to be discontinued, the

appropriation having been made strictly to pay the expenses incurred by Dr. Ricketts in this work.

In this connection let us note that while Dr. Ricketts had been engaged in the study of this disease from May, 1906, up to the time of his death, that at no time did he receive one penny from the State of Montana in payment for services rendered. During 1907 and 1908, his expenses were paid by this State, though his expenses were, during these two years, limited to two thousand dollars per year, and as stated above, the sum of six thousand dollars was appropriated to pay his expenses during the two years of 1909 and 1910, but was not made available until December of 1909.

Though Dr. Ricketts was unable to complete his investigation to a degree that would demonstrate beyond any scientific question the responsibility of the tick in the transmission of this disease, nevertheless he did complete his work to the extent of demonstrating the responsibility of the tick from a practical standpoint, and to place the people of this State, and especially of the infected district, in a position to fight the disease in a practical manner.

His investigation resulted in determining, beyond any question, the fact that the tick may transmit Spotted Fever; more than this, he demonstrated that the tick in nature does transmit Spotted Fever; this having been accomplished by demonstrating that ticks collected in nature will infect guinea pigs with Spotted Fever. This much was accomplished in 1906 and 1907.

In 1908 most of Dr. Ricketts' time was devoted to efforts to determine the source of infection in the tick, which point he was not able to determine during that season's work; but he did discover what is probably the germ of this disease, and further demonstrated the presence of this germ in the tick, and especially in the ovaries of the female tick.

In addition to this work, Dr. Ricketts made extensive study of the ticks in the infected locality, and found several varieties of ticks to exist there. He also determined that while the tick developed through three stages, viz., the larval, nymphal and the full fledged tick, that it was extremely rare that the tick was found on human beings except in the stage of the full fledged tick.

He further determined that during the two primary stages

of development the tick lived largely upon the small lower animals, such as the gopher, ground squirrel and other rodents, though it was not uncommon to find the undeveloped tick on domestic animals. He stated in his report that he had found on one occasion two nymphs on a child, but that on no other occasion had he ever found anything but a full fledged tick on a human being.

The report of Dr. Ricketts relative to the life cycle of the tick is found in the Biennial Report of the State Board of Health of Montana for 1907 and 1908. In addition to this report, Dr. Ricketts has published numerous other articles relative to the study of this disease.

In the various studies of this disease no practical reason has been advanced as to why this disease has not extended beyond its present limited territory. That it may extend at any time is entirely possible.

Should any animal bearing on infected female tick cross the river and the tick drop in a favorable locality where her eggs would hatch and the young secure nourishment, it is more than probable that a new district would become infected. Why this has not happened up to the present time has not been exposed by scientific research.

During the summer of 1909 the study of the ticks in the infected districts was carried on by Dr. Hunter, of the Bureau of Entomology of the United States Department of Agriculture; Dr. A. K. Fisher, of the Biological Survey; and Prof. R. A. Cooley, of the Montana Agricultural College. The result of the study of these gentlemen has not been published to date, but we anticipate a report through the federal department.

The question now arises as to what is the next step to take in regard to the study of this disease. Dr. Ricketts is dead and the State of Montana cannot hope to secure the services of another man who will be so interested in scientific research as to be willing to devote his time to this subject without compensation. Naturally, it is important that the study of this disease be continued, but is it not more important that we make practical use of the information thus far gained? It is a well known fact, demonstrated by the fight against the tick fever among the cattle in Texas, that ticks will not live on animals treated with petroleum. If ticks are deprived of their natural source of nourishment, namely domestic animals, in

the infected district, they will naturally be starved out, and this can be accomplished by oiling all domestic animals in the infected district for from four to five months during the year.

In order to accomplish this, it will be necessary to have laws requiring all persons living in the infected district to submit their domestic animals to the process of oiling. This process would of necessity have to be carried on under proper supervision, and such work would probably cost in the neighborhood of $8,000.00 per year.

Comparatively little benefit could be hoped for during the first year, but the second year should show good results in the way of eliminating this disease. In this connection we would respectfully call your attention to the Third Biennial Report of the State Board of Health of Montana, wherein both Dr. Ricketts and the Secretary of this Board urged the advisability of oiling domestic animals in the infected district as a means of preventing this disease. Copies of this report were sent to the papers in the Bitter Root Valley, and we hoped that some of the people living in the infected district would take up the work personally, but thus far we are unable to learn of any thing of the kind having been attempted in the valley. However, little or no benefit would result from individuals oiling their own animals when their neighbors' animals were not oiled. Good results can be accomplished only by concerted action in this line.

As stated above, it is highly desirable that a scientific study of this question be continued, but, if making practical use of the knowledge thus far obtained and continuing the scientific study at the same time cannot be undertaken, then it appeals to the author that the most practical course is to make use of the knowledge thus far gained.

The amount of money expended in oiling domestic animals in the infected district, should this prove successful, would be very small when compared with the increased value of the land in this district. The increased value of the land as a result of this work does not take into consideration the value of the lives lost as a result of the disease. There were 24 deaths reported from this disease during the two years ending June 30th, 1910, and these lives were certainly of some value. But without regard to the value of these lives, the increased value of the land alone would more than compensate for the money expended in fighting this disease.

# Communicable Diseases.

## Smallpox.

During the year ending November 30th, 1909, there were 646 cases of smallpox reported to the State Board of Health, and in 1910 there were 666 cases, in 1907, 164 cases, and in 1908 there were 717 cases. This shows a decrease in 1909 over 1908 and an increase in 1910 over 1909.

We notice on referring to Tables I. and II. that 47.67 per cent of the cases were reported from Silver Bow County in 1909 and 63.66 per cent in 1910.

During 1909 there were three deaths from smallpox. In one instance reported from Missoula County there is a decided difference of opinion as to the diagnosis in the case. Two physicians who saw the case state that he did not have smallpox at all, but had pneumonia with some simple skin eruption complicating it, but the physician who attended the case and signed the death certificate states that death was due to smallpox, hence the record stands. The death in Gallatin County occurred in a very old lady. None of the cases had ever been vaccinated.

In 1910 there was one death from smallpox, this death occurring in an infant in Custer County.

With the exception of Silver Bow County, the State has been comparatively free from smallpox during the last two years. Tables I. and II. show the number of cases in each county and also the number of cases that occurred in each of the nine principal cities. The cases tabulated as occurring in the principal cities in every instance are not additional cases. They were included in the number of cases credited to the respective counties.

## TABLE I.

CASES OF SMALLPOX REPORTED DURING THE YEAR ENDING NOV. 30, 1909.

| | December | January | February | March | April | May | June | July | August | September | October | November | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Beaverhead | .... | .... | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 |
| Broadwater | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Carbon | .... | .... | 1 | .... | .... | .... | 4 | 2 | .... | .... | .... | .... | 7 |
| Cascade | 1 | 1 | .... | 8 | 1 | .... | 1 | .... | .... | .... | .... | .... | 12 |
| Chouteau | .... | 2 | 1 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 4 |
| Custer | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 1 |
| Dawson | 17 | 3 | .... | 1 | 12 | 5 | .... | .... | .... | 2 | .... | 1 | 41 |
| Deer Lodge | .... | .... | .... | .... | 3 | 1 | .... | .... | .... | .... | .... | .... | 4 |
| Fergus | 1 | 1 | 28 | 5 | .... | .... | 1 | .... | .... | .... | .... | .... | 36 |
| Flathead | .... | .... | .... | .... | 2 | 4 | .... | .... | .... | .... | 2 | 5 | 13 |
| Gallatin | 10 | 3 | 2 | 10 | 1 | 4 | .... | .... | .... | .... | .... | .... | 30 |
| Granite | .... | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 4 |
| Jefferson | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... | 1 | 3 |
| Lewis and Clark | .... | .... | .... | 1 | .... | 1 | .... | .... | .... | .... | 2 | .... | 4 |
| Lincoln | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Madison | 2 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 3 |
| Meagher | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | 1 |
| Missoula | 1 | 12 | 2 | .... | 1 | 1 | 1 | 3 | 2 | .... | 6 | 16 | 45 |
| Park | 1 | 6 | .... | 11 | 8 | 12 | 19 | 2 | 2 | .... | .... | .... | 61 |
| Powell | 3 | 11 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 16 |
| Ravalli | 10 | .... | 6 | 5 | 3 | .... | .... | .... | .... | .... | .... | 2 | 26 |
| Rosebud | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Sanders | 1 | 9 | 1 | .... | .... | 1 | .... | .... | .... | .... | .... | .... | 12 |
| Silver Bow | 30 | 10 | 18 | 18 | 34 | 20 | 40 | 31 | 27 | 11 | 24 | 45 | 308 |
| Sweet Grass | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Teton | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | 1 |
| Valley | .... | .... | .... | .... | 2 | 1 | .... | .... | .... | .... | .... | .... | 3 |
| Yellowstone | .... | 1 | .... | 1 | .... | 1 | .... | 6 | .... | .... | .... | .... | 9 |
| Totals | 77 | 64 | 62 | 61 | 67 | 54 | 68 | 44 | 31 | 13 | 34 | 71 | 646 |

CASES REPORTED FROM NINE PRINCIPAL CITIES.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | .... | .... | .... | .... | 3 | 1 | .... | .... | .... | .... | .... | .... | 4 |
| Billings | .... | 1 | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | 2 |
| Bozeman | 5 | 2 | 2 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | 12 |
| Butte | 15 | 3 | 8 | 12 | 14 | 16 | 35 | 20 | 19 | 10 | 22 | 32 | 206 |
| Great Falls | 1 | .... | .... | .... | 1 | .... | 1 | .... | .... | .... | .... | .... | 3 |
| Helena | .... | .... | .... | 1 | .... | 1 | .... | .... | .... | .... | 1 | .... | 3 |
| Kalispell | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Livingston | 1 | 2 | .... | 10 | 7 | 6 | 4 | 2 | 2 | .... | .... | .... | 34 |
| Missoula | 1 | 2 | .... | .... | 1 | 1 | 1 | 3 | 2 | .... | 3 | 11 | 25 |

## TABLE II.

CASES OF SMALLPOX REPORTED DURING THE YEAR ENDING NOV. 30, 1910.

| | December | January | February | March | April | May | June | July | August | September | October | November | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Beaverhead | 1 | 1 | 3 | .... | 6 | 2 | 1 | .... | .... | 1 | .... | .... | 15 |
| Broadwater | .... | .... | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 |
| Carbon | .... | 5 | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | 6 |
| Cascade | .... | .... | .... | .... | 3 | 1 | 1 | .... | .... | .... | .... | 2 | 7 |
| Chouteau | .... | 6 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | 7 |
| Custer | .... | .... | 1 | 1 | 2 | .... | .... | .... | .... | .... | .... | .... | 4 |
| Dawson | 4 | 1 | .... | .... | 1 | 1 | 4 | 8 | 2 | .... | .... | 1 | 22 |
| Deer Lodge | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | 3 |
| Fergus | .... | .... | .... | .... | 1 | .... | 2 | 6 | .... | .... | .... | .... | 9 |
| Flathead | .... | .... | .... | .... | .... | 5 | .... | .... | .... | .... | .... | .... | 5 |
| Gallatin | 1 | 1 | 1 | .... | 1 | .... | .... | .... | .... | .... | .... | .... | 4 |
| Granite | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Jefferson | .... | .... | .... | .... | .... | 3 | .... | .... | .... | .... | .... | .... | 3 |
| Lewis and Clark | .... | 3 | 25 | .... | 3 | .... | .... | .... | .... | 1 | .... | .... | 32 |
| Lincoln | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 1 |
| Madison | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 |
| Meagher | .... | .... | 2 | .... | 2 | 5 | 1 | .... | .... | .... | .... | .... | 10 |
| Missoula | 30 | 18 | 3 | 6 | 1 | .... | 1 | .... | .... | .... | .... | .... | 59 |
| Park | 9 | 4 | .... | .... | 7 | 4 | 2 | .... | .... | .... | .... | .... | 26 |
| Powell | .... | .... | 1 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | 3 |
| Ravalli | 1 | .... | 2 | 2 | .... | 1 | .... | .... | .... | .... | .... | .... | 6 |
| Rosebud | .... | .... | .... | .... | 1 | 1 | 2 | 2 | 2 | .... | .... | .... | 8 |
| Sanders | .... | 3 | 1 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | 8 |
| Silver Bow | 43 | 77 | 73 | 52 | 34 | 45 | 36 | 15 | 4 | 13 | 18 | 7 | 417 |
| Sweet Grass | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Teton | .... | .... | .... | .... | .... | 1 | .... | 2 | .... | .... | .... | .... | 3 |
| Valley | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Yellowstone | .... | 2 | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... | 4 |
| Totals | 89 | 122 | 116 | 68 | 64 | 70 | 53 | 33 | 8 | 15 | 18 | 10 | 666 |

CASES REPORTED FROM NINE PRINCIPAL CITIES.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | 3 |
| Billings | .... | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 |
| Bozeman | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 |
| Butte | 32 | 70 | 53 | 43 | 27 | 32 | 27 | 13 | 3 | 8 | 16 | 6 | 330 |
| Great Falls | .... | .... | .... | .... | 2 | 1 | .... | .... | .... | .... | .... | 2 | 5 |
| Helena | .... | 3 | 4 | .... | 3 | .... | .... | .... | .... | 1 | .... | .... | 11 |
| Kalispell | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Livingston | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 8 |
| Missoula | 21 | 9 | 3 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 34 |

## Diphtheria.

The condition of the State during the last two years, relative to diphtheria, shows very favorably. Cases have been reported as follows:

| | |
|---|---|
| 1907 | 1,116 cases. |
| 1908 | 984 cases. |
| 1909 | 795 cases. |
| 1910 | 494 cases. |

During the year ending June 30th, 1910, we find that there were 83 deaths from diphtheria and during this same period there were 257 cases reported, thus showing a death rate of 32.29 per cent. This death rate is higher than it should be, and were antitoxin used in all cases the death rate would not be this high, statistics showing that the death rate where antitoxin is used is about 12 per cent, and where it is used promptly, that is, at the beginning of the disease, the death rate is almost nil. This is a strong argument for the supply of antitoxin free of charge to the people of this State. The loss of a single life would more than pay for the cost of antitoxin used in this State.

Tables III. and IV. show the cases reported by months and by counties. These tables show that the disease has been equally distributed over the state in relation to population, and that it has not prevailed in anything approaching epidemic form at any time or at any place during the last two years.

## TABLE III.

CASES OF DIPHTHERIA REPORTED DURING THE YEAR ENDING NOV. 30, 1909.

| | December | January | February | March | April | May | June | July | August | September | October | November | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Beaverhead | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | 2 |
| Broadwater | .... | 1 | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | 1 | 4 |
| Carbon | 4 | 8 | 3 | 3 | 1 | 1 | .... | .... | 1 | 2 | 1 | 10 | 34 |
| Cascade | 5 | 2 | 6 | 3 | 11 | 11 | 9 | 9 | 3 | 8 | 4 | 6 | 77 |
| Chouteau | 1 | 2 | 9 | 2 | 1 | 2 | .... | .... | 3 | 3. | 1 | .... | 24 |
| Custer | 9 | 3 | 9 | 2 | .... | 1 | .... | .... | .... | .... | 4 | 1 | 29 |
| Dawson | 1 | .... | .... | 2 | 2 | .... | .... | .... | .... | .... | 6 | 9 | 20 |
| Deer Lodge | 2 | 1 | 2 | .... | 2 | 1 | 1 | .... | .... | .... | .... | .... | 9 |
| Fergus | .... | 1 | 1 | 6 | 6 | 2 | 3 | 4 | .... | .... | 1 | 2 | 26 |
| Flathead | 8 | 7 | 9 | 6 | 2 | 11 | 5 | 1 | 1 | .... | 1 | .... | 51 |
| Gallatin | 1 | .... | 1 | 1 | 2 | .... | .... | .... | .... | .... | .... | .... | 5 |
| Granite | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Jefferson | 6 | 12 | 2 | 2 | .... | 3 | 5 | 2 | 3 | .... | 1 | .... | 36 |
| Lewis and Clark | 8 | 12 | 9 | 20 | 11 | 8 | 2 | 3 | 2 | 1 | .... | 2 | 78 |
| Lincoln | .... | .... | .... | .... | .... | .... | .... | .... | .... | 4 | .... | .... | 4 |
| Madison | .... | .... | .... | 3 | .... | .... | .... | 1 | .... | .... | .... | .... | 4 |
| Meagher | .... | .... | .... | 1 | .... | 2 | .... | .... | .... | .... | .... | .... | 3 |
| Missoula | 8 | 18 | 5 | 2 | 3 | 5 | 4 | 2 | 6 | 4 | 6 | 6 | 69 |
| Park | 5 | 2 | 4 | 2 | 1 | 1 | 2 | 5 | 3 | 3 | 1 | .... | 29 |
| Powell | .... | 1 | .... | 3 | 5 | 1 | 1 | .... | .... | 1 | 2 | 3 | 17 |
| Ravalli | .... | 10 | 2 | 4 | 1 | 1 | .... | 2 | 1 | .... | .... | 3 | 24 |
| Rosebud | 2 | 2 | 1 | 1 | .... | 1 | .... | .... | .... | .... | .... | 1 | 8 |
| Sanders | 2 | 3 | 1 | 3 | .... | .... | 1 | .... | .... | .... | .... | 1 | 11 |
| Silver Bow | 12 | 13 | 12 | 14 | 16 | 14 | 6 | 2 | 14 | 7 | 18 | 42 | 170 |
| Sweet Grass | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | 2 | 5 |
| Teton | .... | .... | .... | .... | 5 | .... | .... | .... | 1 | .... | .... | 2 | 8 |
| Valley | .... | .... | .... | 1 | .... | 6 | .... | .... | .... | .... | 1 | 3 | 11 |
| Yellowstone | 2 | 3 | 2 | 11 | 3 | 3 | 4 | 7 | .... | 1 | .... | 1 | 37 |
| Totals | 77 | 101 | 78 | 92 | 72 | 74 | 44 | 41 | 38 | 34 | 49 | 95 | 795 |

CASES REPORTED FROM NINE PRINCIPAL CITIES.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | 1 | 1 | 2 | .... | 2 | 1 | 1 | .... | .... | .... | .... | .... | 8 |
| Billings | .... | 3 | 1 | .... | 1 | 2 | 2 | 7 | .... | .... | .... | 1 | 17 |
| Bozeman | 1 | .... | 1 | .... | 1 | .... | .... | .... | .... | .... | .... | .... | 3 |
| Butte | 9 | 10 | 6 | 13 | 13 | 12 | 5 | 2 | 12 | 6 | 13 | 37 | 138 |
| Great Falls | 4 | 2 | 6 | 3 | 10 | 11 | 9 | 6 | 2 | 7 | 3 | 5 | 68 |
| Helena | 6 | 7 | 9 | 11 | 11 | 5 | 2 | 3 | 2 | 1 | .... | 2 | 59 |
| Kalispell | 3 | 3 | 8 | 2 | 1 | .... | 1 | 1 | 1 | .... | 1 | .... | 21 |
| Livingston | 5 | 2 | 2 | 2 | 1 | 1 | 2 | 5 | 3 | 3 | 1 | .... | 27 |
| Missoula | 5 | 6 | 1 | 1 | 1 | 5 | 4 | 2 | .... | 1 | 2 | 2 | 30 |

## TABLE IV.

CASES OF DIPHTHERIA REPORTED DURING THE YEAR ENDING NOV. 30, 1910.

| | December | January | February | March | April | May | June | July | August | September | October | November | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Beaverhead | .... | .... | .... | .... | 1 | 6 | 3 | .... | .... | 1 | .... | .... | 11 |
| Broadwater | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | 2 |
| Carbon | .... | .... | .... | .... | .... | .... | 5 | .... | .... | .... | .... | .... | 5 |
| Cascade | 9 | 13 | 10 | 2 | 2 | 5 | 2 | 4 | 1 | .... | 4 | 3 | 55 |
| Chouteau | 1 | 4 | .... | 1 | 1 | 5 | 1 | .... | 1 | .... | 3 | .... | 17 |
| Custer | .... | 5 | 1 | 1 | 1 | 1 | .... | .... | .... | 2 | 2 | .... | 13 |
| Dawson | 8 | 3 | 4 | 7 | .... | 5 | 1 | 4 | 1 | 2 | .... | 2 | 37 |
| Deer Lodge | .... | 1 | 5 | 9 | 3 | 4 | 6 | 2 | 4 | 7 | 1 | .... | 42 |
| Fergus | 3 | .... | .... | 5 | .... | 1 | 3 | 8 | 2 | 3 | 3 | 3 | 31 |
| Flathead | 2 | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 3 |
| Gallatin | 1 | 2 | .... | .... | .... | 2 | 1 | .... | .... | 1 | .... | .... | 7 |
| Granite | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 |
| Jefferson | .... | .... | .... | .... | .... | 4 | .... | .... | .... | .... | .... | .... | 4 |
| Lewis and Clark | .... | 3 | .... | .... | 4 | 2 | .... | .... | .... | 1 | .... | 2 | 12 |
| Lincoln | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 3 |
| Madison | .... | 2 | 1 | 3 | .... | .... | .... | 1 | .... | .... | .... | .... | 7 |
| Meagher | 1 | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 2 |
| Missoula | 6 | 1 | .... | 1 | .... | 4 | 9 | 3 | .... | 2 | 4 | 1 | 31 |
| Park | 2 | .... | .... | 4 | 3 | .... | 1 | .... | 1 | .... | 1 | 7 | 19 |
| Powell | .... | .... | .... | 1 | .... | .... | .... | 1 | .... | .... | .... | 1 | 3 |
| Ravalli | 1 | .... | 2 | .... | .... | 4 | 1 | 1 | 1 | .... | 7 | .... | 17 |
| Rosebud | 1 | .... | .... | .... | .... | 4 | .... | .... | .... | .... | 1 | .... | 6 |
| Sanders | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 2 |
| Silver Bow | 11 | 16 | 6 | 15 | 20 | 10 | 16 | 4 | 6 | 5 | 4 | 3 | 116 |
| Sweet Grass | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 |
| Valley | .... | 2 | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 3 |
| Teton | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | ..... |
| Yellowstone | 5 | 11 | 3 | 4 | 4 | 8 | 3 | 2 | 1 | 2 | .... | 1 | 44 |
| Totals | 53 | 65 | 34 | 54 | 39 | 65 | 53 | 31 | 18 | 27 | 31 | 24 | 494 |

### CASES REPORTED FROM NINE PRINCIPAL CITIES.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | .... | 1 | 5 | 9 | 3 | 4 | 6 | 2 | 4 | 7 | 1 | .... | 42 |
| Billings | 5 | 4 | 2 | 4 | 2 | 8 | 1 | 2 | 1 | 2 | .... | 1 | 32 |
| Bozeman | .... | .... | .... | .... | .... | 2 | .... | .... | .... | 1 | .... | .... | 3 |
| Butte | 9 | 12 | 5 | 11 | 17 | 5 | 12 | 3 | 4 | 3 | 1 | 22 | 104 |
| Great Falls | 3 | 9 | 8 | 2 | 2 | 3 | 1 | 1 | 1 | .... | 1 | 2 | 33 |
| Helena | .... | 1 | .... | .... | 3 | 2 | .... | .... | .... | 1 | .... | 2 | 9 |
| Kalispell | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Livingston | 2 | .... | .... | 4 | 1 | .... | 1 | .... | 1 | .... | .... | 7 | 14 |
| Missoula | 5 | 1 | .... | 1 | .... | 4 | 9 | 2 | .... | 2 | 4 | 1 | 29 |

## Scarletina.

Scarlet fever prevailed in epidemic form in Great Falls and Cascade County in 1909, and from this source the infection spread pretty generally throughout the State. The study of reports from other states shows that the disease has gradually extended during the last few years from the Atlantic to the Pacific coast, it striking our State hardest during the spring of 1909. We find cases reported during the last four years as follows:

| | |
|---|---|
| 1907 | 328 cases. |
| 1908 | 1,164 cases. |
| 1909 | 1,749 cases. |
| 1910 | 905 cases. |

Of the cases reported in 1909, we find that 22.69 per cent were reported from Cascade County. We note a decided decrease in the number of cases reported in 1910 over cases reported in 1909. During the year ending June 30th, 1910, we find that there were 903 cases reported, and that during this same period there were 63 deaths from this disease, thus showing a mortality of 6.97 per cent. We also note a decided decrease in the number of deaths for the year ending June 30th, 1909, and the year ending June 30th, 1910, there being 142 deaths from this disease in 1909 and only 63 in 1910.

Tables V. and VI. show the points from which the various cases of this disease were reported.

## TABLE V.

CASES OF SCARLET FEVER REPORTED DURING THE YEAR ENDING NOV. 30, 1909.

| | December | January | February | March | April | May | June | July | August | September | October | November | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Beaverhead | 2 | 3 | .... | 2 | 5 | .... | 1 | 4 | .... | .... | .... | .... | 17 |
| Broadwater | .... | .... | 2 | 6 | .... | 17 | 2 | .... | 1 | .... | .... | .... | 28 |
| Carbon | 2 | 4 | 9 | 2 | 1 | .... | 12 | 5 | 9 | 2 | 1 | .... | 47 |
| Cascade | 34 | 50 | 57 | 68 | 62 | 48 | 33 | 34 | 2 | 2 | 1 | 4 | 395 |
| Chouteau | 1 | 11 | 3 | 3 | 2 | 19 | 2 | 1 | .... | 2 | .... | 1 | 45 |
| Custer | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | ..... |
| Dawson | 1 | 1 | 8 | .... | .... | 1 | .... | .... | .... | .... | 3 | 3 | 17 |
| Deer Lodge | 7 | 21 | 10 | 7 | 18 | 17 | 9 | 3 | 2 | .... | .... | .... | 94 |
| Fergus | .... | 7 | .... | .... | 1 | 1 | 2 | .... | .... | .... | .... | 1 | 12 |
| Flathead | 2 | 1 | 1 | .... | 5 | 5 | 3 | .... | 8 | 3 | 5 | 1 | 34 |
| Gallatin | 4 | 3 | 7 | 15 | 20 | 25 | 10 | 7 | 5 | 1 | 2 | 6 | 105 |
| Granite | 1 | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... | .... | 3 |
| Jefferson | .... | 4 | 2 | 1 | 1 | 5 | 6 | .... | .... | .... | .... | .... | 19 |
| Lewis and Clark | 4 | 5 | 23 | 39 | 15 | 18 | 3 | 2 | .... | 3 | 9 | 3 | 124 |
| Lincoln | .... | .... | .... | .... | .... | .... | .... | .... | 5 | 1 | .... | .... | 6 |
| Madison | 4 | 1 | 5 | .... | 16 | 2 | 2 | 1 | 4 | 3 | 1 | 1 | 40 |
| Meagher | .... | 1 | 1 | 2 | 3 | .... | .... | .... | .... | .... | .... | 2 | 9 |
| Missoula | 7 | 3 | 8 | 7 | 7 | 33 | 7 | 3 | 6 | 1 | 3 | .... | 85 |
| Park | 11 | 24 | 8 | 14 | 1 | 5 | 2 | 2 | 5 | 1 | .... | .... | 73 |
| Powell | 2 | 9 | 2 | 2 | 3 | 1 | 8 | .... | 2 | .... | 2 | 9 | 40 |
| Ravalli | 3 | 2 | 4 | 11 | 14 | 2 | 3 | 14 | 3 | .... | 13 | 2 | 71 |
| Rosebud | 4 | .... | .... | .... | .... | .... | .... | 4 | 3 | 2 | 2 | 2 | 17 |
| Sanders | 1 | 11 | 10 | 15 | 3 | 1 | .... | .... | .... | .... | .... | 2 | 43 |
| Silver Bow | 54 | 54 | 36 | 43 | 33 | 33 | 24 | 10 | 10 | 7 | 5 | 1 | 310 |
| Sweet Grass | 1 | .... | .... | 1 | .... | .... | 2 | 6 | .... | 2 | 3 | 1 | 16 |
| Teton | .... | .... | .... | .... | 3 | 3 | .... | .... | .... | .... | .... | .... | 6 |
| Valley | .... | 2 | 5 | 5 | 19 | 1 | 2 | 2 | .... | .... | .... | .... | 36 |
| Yellowstone | .... | 4 | 6 | 11 | 11 | 12 | 6 | 4 | 1 | .... | 1 | 1 | 57 |
| Totals | 145 | 221 | 207 | 254 | 243 | 251 | 139 | 102 | 66 | 30 | 51 | 40 | 1749 |

CASES REPORTED FROM NINE PRINCIPAL CITIES.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | 7 | 21 | 10 | 4 | 16 | 17 | 9 | 3 | 2 | .... | .... | .... | 89 |
| Billings | .... | 4 | 3 | 2 | 10 | 12 | 6 | .... | 1 | .... | 1 | 1 | 40 |
| Bozeman | 4 | 1 | 4 | 14 | 11 | 17 | 4 | 4 | 2 | 1 | 2 | 3 | 67 |
| Butte | 25 | 38 | 23 | 38 | 27 | 25 | 21 | 5 | 6 | 3 | 5 | .... | 216 |
| Great Falls | 24 | 36 | 41 | 54 | 39 | 29 | 10 | 22 | 1 | 2 | 1 | 3 | 262 |
| Helena | 4 | 1 | 12 | 23 | 13 | 13 | 2 | 2 | .... | 3 | 2 | 3 | 78 |
| Kalispell | .... | 1 | .... | .... | 1 | 4 | 3 | .... | .... | .... | 3 | .... | 12 |
| Livingston | 5 | 20 | 7 | 14 | 1 | 4 | 2 | 1 | 4 | .... | .... | .... | 58 |
| Missoula | 5 | 1 | 5 | 7 | 5 | 20 | 5 | 2 | 2 | .... | 3 | .... | 55 |

## TABLE VI.

CASES OF SCARLET FEVER REPORTED DURING THE YEAR ENDING NOV. 30, 1910.

| | December | January | February | March | April | May | June | July | August | September | October | November | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Beaverhead | .... | 10 | 8 | 6 | 1 | .... | 6 | 5 | 1 | 1 | .... | 1 | 45 |
| Broadwater | .... | 14 | 1 | 3 | 12 | 2 | .... | 1 | .... | .... | .... | .... | 33 |
| Carbon | .... | 2 | .... | 1 | .... | 2 | .... | 2 | .... | .... | .... | 3 | 10 |
| Cascade | .... | 3 | 1 | 4 | 1 | 3 | 3 | 1 | 2 | 1 | 2 | 4 | 25 |
| Chouteau | 5 | .... | 6 | 7 | 14 | 2 | 2 | 1 | .... | .... | .... | .... | 37 |
| Custer | .... | 1 | 1 | .... | 1 | 2 | .... | 4 | 2 | .... | .... | .... | 11 |
| Dawson | 3 | 2 | 7 | 14 | 9 | 6 | .... | .... | .... | 11 | 2 | 2 | 56 |
| Deer Lodge | .... | 2 | 4 | 1 | 6 | 1 | 1 | 7 | .... | .... | 1 | .... | 23 |
| Fergus | 4 | .... | 1 | 3 | 9 | 1 | 5 | 4 | 2 | .... | 1 | 9 | 39 |
| Flathead | 4 | 5 | 1 | 1 | 1 | 6 | 18 | 14 | 1 | .... | 1 | .... | 52 |
| Gallatin | 2 | 1 | 4 | 11 | 1 | 2 | .... | .... | 4 | 2 | .... | .... | 27 |
| Granite | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | 1 |
| Jefferson | .... | 1 | .... | 6 | 1 | 1 | .... | .... | .... | .... | .... | .... | 9 |
| Lewis and Clark | 3 | 5 | 2 | 2 | 1 | 3 | 2 | 2 | 8 | 1 | 1 | 6 | 36 |
| Lincoln | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Madison | 3 | 2 | 1 | .... | .... | .... | 3 | 6 | .... | 2 | 2 | 5 | 24 |
| Meagher | .... | 6 | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | 7 |
| Missoula | .... | .... | 2 | 3 | 2 | 2 | 1 | 3 | 4 | 1 | 2 | .... | 20 |
| Park | .... | 2 | 2 | 3 | 1 | .... | 2 | .... | .... | .... | 2 | 2 | 14 |
| Powell | 11 | .... | .... | 4 | .... | .... | .... | 1 | .... | .... | .... | .... | 16 |
| Ravalli | 1 | .... | 1 | 5 | .... | 3 | 4 | 3 | 1 | .... | .... | .... | 18 |
| Rosebud | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Sanders | 1 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 3 |
| Silver Biw | 5 | 14 | 28 | 28 | 36 | 59 | 58 | 41 | 14 | 27 | 15 | 11 | 336 |
| Sweet Grass | .... | .... | .... | .... | .... | .... | 2 | 3 | 3 | .... | .... | .... | 8 |
| Teton | .... | .... | .... | .... | 3 | 3 | 1 | .... | .... | 1 | 5 | 3 | 16 |
| Valley | .... | .... | .... | 1 | 1 | .... | .... | .... | 3 | .... | .... | .... | 5 |
| Yellowstone | 1 | .... | 7 | 1 | 9 | 10 | 4 | .... | .... | 1 | 1 | .... | 34 |
| Totals | 43 | 72 | 77 | 104 | 110 | 109 | 112 | 98 | 45 | 48 | 35 | 52 | 905 |

CASES REPORTED FROM NINE PRINCIPAL CITIES.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | .... | 2 | 4 | 1 | 6 | 1 | 1 | 7 | .... | .... | 1 | .... | 26 |
| Billings | .... | .... | 4 | .... | 2 | 2 | 2 | .... | .... | 1 | .... | .... | 11 |
| Bozeman | 2 | .... | .... | .... | .... | .... | .... | .... | 4 | 2 | .... | .... | 11 |
| Butte | 5 | 11 | 24 | 27 | 25 | 50 | 45 | 23 | 10 | 20 | 14 | 10 | 264 |
| Great Falls | .... | 2 | .... | 4 | 1 | .... | 3 | 1 | .... | 1 | .... | 2 | 14 |
| Helena | 2 | .... | 2 | 2 | .... | 1 | 2 | .... | 2 | .... | 1 | 3 | 15 |
| Kalispell | .... | .... | .... | .... | .... | .... | 8 | 6 | 1 | .... | 1 | .... | 17 |
| Livingston | .... | 2 | 1 | 1 | 1 | .... | 2 | .... | .... | .... | .... | .... | 7 |
| Missoula | .... | .... | 2 | 3 | 1 | .... | .... | 2 | 4 | 1 | 2 | .... | 15 |

## Typhoid Fever.

During the two years ending November 30th, 1908, there were 1,510 cases of typhoid fever reported, whereas during the two years ending November 30th, 1910, there were 1,450 cases reported. Of these, 659 were reported in 1909 and 791 in 1910. The study of Tables VII. to IX. shows the location of this disease, and we find that 40.9 per cent of the cases reported in 1909 are reported from along the Yellowstone river and that 30.1 per cent of the cases reported in 1910 originated in this same district. This shows a decrease in the percentage of cases reported from the Yellowstone valley, but this apparent decrease is largely due to the epidemic of typhoid fever in Cascade County, the number of cases reported from Cascade County in 1910 representing 25.6 per cent of the total number of cases reported for the year.

It is claimed by some health officers that certain localities, especially certain cities, were given credit for more cases than they were entitled to, the cases being shipped into such cities from outside localities for treatment. This is true to some extent, especially in some instances, but it is not always absolutely true, and as an illustration of this I have tabulated in Table IX. the number of cases of typhoid fever as having originated in certain places, the reports to this office showing where the patient had been during the two weeks previous to the onset of the disease. The comparison of these two tables shows that Helena reports considerably more typhoid fever than originates in the city. This is also true of Great Falls, and especially true of Missoula. In taking the statement of the point at which the disease was contracted, the majority of these cases originating at other points are reported from Missoula, a large number of railroad employes being sent there for treatment. The report states that the patient came from a certain town. For instance, it will state that a patient came from Helena and in Table IX. Helena is given credit with this infection. It does not necessarily follow that the infection was received at Helena, these cases being railroad employes traveling from point to point, and it is more than probable that they secured their infection at some isolated way station than at a city having a pure water supply. In 1909 there were 9 cases of typhoid fever reported in Helena and 13 cases reported as having originated in Helena. In 1910 there were 20 cases of

typhoid fever reported in Helena, but only 9 reported as having originated in Helena, thus showing a decrease of 25 per cent in the cases originating in Helena in 1910.

It will be noticed on comparing Tables VII. and VIII. with Table IX. that the total number of cases of typhoid fever is smaller in the latter table. This is due to cases coming from other States.

During the year ending June 20th, 1910, there were reported 674 cases of typhoid fever and during this same period 95 deaths were reported as due to this disease, thus showing a death rate of 14.07 per cent. This is a high death rate for typhoid fever and indicates that in some localities at least the health officers are not performing their duty in the matter of seeing that this disease is reported. The death rate should not run more than 10 per cent and we believe that it does not run higher than 10 per cent, but that the apparently high death rate is due to the failure on the part of the local and county health officers in securing a complete report of this disease.

In talking to some of the health officers over the State and calling their attention to this matter, I have had it stated to me that cases are reported as typhoid fever that are not typhoid at all. This may be possible, but in these very localities we find that it must be a fact that cases of typhoid fever are not reported, so that the number of cases reported as typhoid, which are not typhoid, are more than offset by the number of cases of typhoid that are not reported.

In the study of Tables VII. and VIII. we note that in certain localities typhoid fever begins early in the summer and stops toward fall, whereas in other localities there is very little typhoid during the summer, but this disease increases during the fall months. It is now a pretty well established fact that summer typhoid fever is due to unsanitary conditions surrounding the locality, and especially fly infection; whereas fall typhoid fever is largely due to water infection, so that by a study of the above mentioned tables one can locate to a fairly accurate degree the points at which infection is due to unsanitary conditions and those in which it is largely due to water pollution. This rule is not always absolute. For instance, some typhoid infections occurring in the fall months are due to fly infection and other unsanitary conditions.

On the whole, our typhoid cases are far too numerous. This disease can be prevented by guarding our water supplies and seeing that sanitary conditions are maintained throughout our State, but this cannot be accomplished until local and county health officers are appointed for ability and are paid salaries sufficient to justify their spending the time necessary to see that sanitary conditions are maintained throughout their districts.

## TABLE VII.

CASES OF TYPHOID FEVER REPORTED DURING THE YEAR ENDING NOV. 30, 1909.

| | December | January | February | March | April | May | June | July | August | September | October | November | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Beaverhead | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 2 | .... | 1 | 4 |
| Broawater | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 3 |
| Carbon | .... | 1 | 1 | 1 | .... | 2 | .... | .... | 3 | 11 | 17 | 5 | 41 |
| Cascade | .... | 2 | 1 | 2 | .... | .... | 2 | .... | 1 | 5 | 9 | 10 | 32 |
| Chouteau | .... | .... | .... | .... | .... | .... | .... | 4 | 6 | 4 | 2 | .... | 16 |
| Custer | .... | .... | .... | .... | .... | .... | .... | 2 | 4 | 6 | 10 | .... | 22 |
| Dawson | .... | .... | .... | .... | 1 | 1 | .... | 1 | .... | 3 | 14 | 5 | 25 |
| Deer Lodge | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | 2 |
| Fergus | 8 | 1 | .... | 3 | .... | .... | 1 | .... | 3 | 2 | 9 | .... | 27 |
| Flathead | 1 | 3 | 2 | 2 | 1 | 2 | 4 | 2 | 4 | 19 | 15 | 5 | 60 |
| Gallatin | 8 | .... | 2 | .... | .... | .... | .... | 11 | 2 | 3 | 5 | 1 | 32 |
| Granite | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | ..... |
| Jefferson | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 2 | .... | 1 | 4 |
| Lewis and Clark | .... | .... | .... | .... | .... | 1 | 1 | 1 | 2 | 7 | 1 | .... | 13 |
| Lincoln | .... | .... | .... | .... | .... | .... | .... | .... | 7 | 11 | 5 | .... | 23 |
| Madison | 1 | .... | .... | 1 | .... | .... | 1 | .... | 2 | 1 | 1 | 7 | 14 |
| Meagher | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 3 | .... | 3 |
| Missoula | 5 | 2 | .... | .... | .... | .... | .... | .... | 22 | 51 | 21 | 6 | 107 |
| Park | .... | 3 | 1 | .... | .... | .... | .... | 1 | 2 | .... | 3 | .... | 10 |
| Powell | 1 | .... | .... | .... | .... | .... | 1 | 1 | 3 | 6 | 6 | 3 | 21 |
| Ravalli | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | .... | 1 | 1 | 4 |
| Rosebud | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 2 | 2 | .... | 5 |
| Sanders | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 2 |
| Silver Bow | .... | 1 | .... | .... | 1 | 11 | 2 | 2 | 2 | 10 | 12 | 17 | 58 |
| Sweet Grass | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | ..... |
| Teton | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | ..... |
| Valley | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | 8 | 2 | 11 |
| Yellowstone | 6 | 1 | 1 | 3 | .... | 1 | 2 | 10 | 17 | 23 | 42 | 14 | 120 |
| Totals | 30 | 14 | 9 | 13 | 3 | 18 | 16 | 35 | 82 | 169 | 188 | 82 | 659 |

CASES REPORTED FROM NINE PRINCIPAL CITIES.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | 2 |
| Billings | 6 | 1 | 1 | 2 | .... | 1 | 2 | 5 | 5 | 14 | 26 | 10 | 73 |
| Bozeman | 7 | .... | 1 | .... | .... | .... | .... | 2 | 2 | 2 | 5 | 1 | 20 |
| Butte | .... | 1 | .... | .... | 1 | 11 | 2 | 2 | 2 | 10 | 12 | 17 | 58 |
| Great Falls | .... | 1 | 1 | 2 | .... | .... | 2 | .... | .... | 5 | 8 | 8 | 25 |
| Helena | .... | .... | .... | .... | .... | 1 | 1 | 1 | 2 | 3 | 1 | .... | 9 |
| Kalispell | 1 | .... | 1 | 1 | .... | .... | 3 | .... | 1 | 2 | 2 | .... | 11 |
| Livingston | .... | 3 | 1 | .... | .... | .... | .... | 1 | .... | 4 | 1 | .... | 10 |
| Missoula | 5 | 2 | .... | .... | .... | .... | .... | .... | 18 | 45 | 21 | 6 | 97 |

TABLE VIII.

CASES OF TYPHOID FEVER REPORTED DURING THE YEAR ENDING NOV. 30, 1910.

| | December | January | February | March | April | May | June | July | August | September | October | November | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Beaverhead | 1 | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 2 |
| Broadwater | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 |
| Carbon | .... | .... | .... | .... | .... | .... | .... | 2 | 11 | 6 | 11 | 13 | 43 |
| Cascade | .... | .... | .... | .... | .... | .... | 1 | 8 | 79 | 74 | 22 | 15 | 199 |
| Chouteau | .... | .... | .... | .... | .... | 1 | 2 | 3 | 6 | 1 | 5 | 4 | 22 |
| Custer | .... | 3 | 3 | .... | .... | 1 | .... | 1 | .... | 1 | .... | 7 | 16 |
| Dawson | 1 | .... | 2 | .... | .... | .... | 2 | 1 | 14 | .... | 2 | 4 | 26 |
| Deer Lodge | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 1 |
| Fergus | 3 | .... | .... | 2 | .... | .... | .... | 1 | 2 | 16 | 16 | 15 | 55 |
| Flathead | 2 | .... | .... | .... | .... | 1 | 1 | 1 | 23 | 32 | 18 | 13 | 91 |
| Gallatin | .... | .... | .... | .... | .... | .... | 1 | 5 | 3 | 8 | 4 | .... | 21 |
| Granite | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Jefferson | .... | 1 | .... | 1 | .... | .... | .... | 2 | 1 | .... | .... | .... | 5 |
| Lewis and Clark | .... | .... | .... | 1 | .... | .... | .... | 4 | 3 | 8 | 6 | 2 | 24 |
| Lincoln | .... | .... | .... | 2 | .... | 2 | .... | .... | 4 | 1 | .... | .... | 9 |
| Madison | 2 | .... | .... | .... | .... | 1 | .... | .... | 1 | .... | .... | .... | 4 |
| Meagehr | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | 1 | 2 |
| Missoula | 5 | .... | .... | .... | .... | .... | .... | 1 | 13 | 17 | 10 | 10 | 56 |
| Park | .... | .... | .... | .... | 1 | .... | 1 | 1 | 5 | 4 | 1 | 3 | 16 |
| Powell | 2 | 1 | .... | .... | .... | .... | .... | 3 | .... | 1 | .... | .... | 7 |
| Ravalli | .... | .... | .... | .... | .... | 1 | .... | 3 | .... | 3 | .... | 1 | 8 |
| Rosebud | .... | .... | .... | .... | .... | .... | .... | .... | .... | 5 | 2 | .... | 7 |
| Sanders | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | 2 |
| Silver Bow | .... | .... | .... | 1 | 1 | .... | 3 | .... | .... | 5 | 2 | 2 | 14 |
| Sweet Grass | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 2 | .... | 3 | 6 |
| Teton | .... | .... | .... | .... | .... | .... | .... | .... | 4 | .... | .... | 1 | 5 |
| Valley | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 9 | 11 | 1 | 22 |
| Yellowstone | 1 | 27 | 19 | 4 | 9 | 1 | 4 | 8 | 14 | 21 | 12 | 8 | 127 |
| Totals | 17 | 32 | 24 | 12 | 9 | .... | 4 | 8 | 14 | 21 | 12 | 8 | 127 |

CASES REPORTED FROM NINE PRINCIPAL CITIES.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 1 |
| Billings | 1 | 26 | 19 | 1 | 3 | .... | 3 | 6 | 11 | 11 | 8 | 6 | 95 |
| Bozeman | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Butte | .... | .... | .... | .... | .... | .... | 3 | .... | 1 | 2 | .... | 2 | 8 |
| Great Falls | .... | .... | .... | .... | .... | .... | 1 | 2 | 77 | 58 | 15 | 4 | 157 |
| Helena | .... | .... | .... | 1 | .... | .... | .... | 4 | 3 | 6 | 5 | 2 | 21 |
| Kalispell | .... | .... | .... | .... | .... | 1 | .... | .... | 12 | 11 | 15 | 6 | 45 |
| Livingston | .... | .... | .... | .... | 1 | .... | .... | .... | 5 | 4 | .... | 3 | 13 |
| Missoula | 5 | .... | .... | .... | .... | .... | .... | 1 | 13 | 17 | 8 | 10 | 54 |

## TABLE IX.

**Cases of Typhoid Fever Reported During 1909 and 1910, Arranged According to the Locality at Which the Infection is Said to Have Occured.**

| | 1909. | 1910 |
|---|---|---|
| Beaverhead | 6 | 2 |
| Broadwater | 3 | 5 |
| Carbon | 40 | 45 |
| Cascade | 37 | 200 |
| Chouteau | 15 | 23 |
| Custer | 22 | 20 |
| Dawson | 24 | 22 |
| Deer Lodge | 3 | 2 |
| Fergus | 22 | 58 |
| Flathead | 52 | 88 |
| Gallatin | 36 | 20 |
| Granite | 2 | — |
| Jeffehson | 5 | 7 |
| Lewis and Clark | 20 | 15 |
| Lincoln | 23 | 9 |
| Madison | 14 | 4 |
| Meagher | 3 | 2 |
| Missoula | 38 | 30 |
| Park | 26 | 15 |
| Powell | 18 | 7 |
| Ravalli | 11 | 14 |
| Rosebud | 5 | 8 |
| Sanders | 5 | 2 |
| Silber Bow | 58 | 14 |
| Sweet Grass | 14 | 8 |
| Teton | — | 5 |
| Valley | 10 | 22 |
| Yellowstone | 143 | 122 |
| **Totals** | 655 | 769 |

**Cases Originating in Nine Principal Cities.**

| | | |
|---|---|---|
| Anaconda | 3 | 1 |
| Billings | 60 | 69 |
| Bozeman | 19 | — |
| Butte | 58 | 9 |
| Great Falls | 29 | 79 |
| Helena | 13 | 9 |
| Kalispell | 13 | 33 |
| Livingston | 19 | 10 |
| Missoula | 10 | 10 |

## Tuberculosis.

This is not classed as a communicable disease by the laws of our State, but it is a well known fact that it is a communicable disease, and a preventable disease, and in nearly every State in the Union strenuous efforts are being made to prevent and wipe out this "great white plague."

During the last two years, this Board has made strenuous effort to interest the people of Montana in the prevention of this disease, but little headway has been made in this respect. So many of our people have an impression that there is little or no tuberculosis in Montana and they take no interest in fighting this disease. That the disease is with us and is on the increase is evidenced only by the death returns, this disease not being reported as a communicable disease. Therefore the only evidence we have in regard to its prevalence is the death rate as shown by the death certificates filed in this office. We find that in 1908 there were 315 deaths, or a death rate of 7.68 per cent. In 1909 there were 320 deaths reported, or a death rate of 8.77 per cent. In 1910 there were 350 deaths reported, or a death rate of 9.65 per cent. This shows not only continued increase in the actual number of deaths from this disease, but greater increase in the per cent of the total number of deaths in the state. From the number of deaths, we can make an estimate of the number of cases of tuberculosis in the state. It has been found by years of study that the number of cases in the locality is represented by about five times the number of deaths. This would mean that we have in Montana in 1910, 1700 cases of tuberculosis, and in this great state there is not a freebed, except in the county hospital or poor farms, where a case of tuberculosis can go for treatment. There is not a sanatorium of any kind, either public or private, for the treatment of this disease.

In addition to this, while the disease is well known to be a communicable disease, children suffering from consumption are permitted to attend school, to spit upon the floor and use the common drinking cup and thus disseminate the disease. And not only are children suffering from this disease allowed to attend school, but teachers actually suffering from tuberculosis are employed and brought into constant contact with the pupils.

Such actions seem to invite the spread of this disease in our

state and that it is spreading is well indicated by the death returns.

It is interesting to note the influence of occupation on the death rate from this disease. This is shown well in the returns from Silber Bow County. In this county we note that in 1909, 130 deaths were reported as due to tuberculosis. This represents 40.6 per cent of the total deaths from this disease in the state, while in 1910, 166 cases were reported from Silver Bow, or 47.4 per cent of the total deaths from this disease in the state.

In talking with people over the state and confronting them with the death rate from this disease, as shown by the death returns, the reply is frequently made that these deaths are largely among people who have come to Montana on account of their health. We have not made a tabulated statement of the deaths as they occurred according to the length of time the deceased persons were residents of Montana, but we have studied this subject and find that a large percentage of people who have died from tuberculosis, have resided in Montana five years or longer, thus indicating that a large percentage of these deaths are not among people who have come here on account of their health.

This state should join in the fight being carried on by other states against this dread disease.

### Measles and Whooping Cough.

The report of cases of Measles and Whooping Cough is so incomplete that we cannot draw reasonable conclusions from them, but the mortality from these two diseases is illustrated by the fact that during the two years ending June 30th, 1910, there were 22 deaths from measles and 52 deaths from whooping cough. It is true that these deaths were largely among young children, but are we to permit the children to die from preventable diseases, or is it worth while to make a very strenuous fight against these diseases, that have destroyed the lives of 74 of the babies of this state during the last two years? We hold up our hands in holy horror at the idea of permitting small pox, but during the last two years small pox has only destroyed 4 lives and these two diseases, of which parents are so apt to say, "let the children have them and be done with them," killed 72 of our people.

# Protection of Public Water Supplies.

The Legislature of 1907, enacted a law known as Part III, Title VII, Chapter I, Article III, Revised Codes of Montana, 1907. It appears that this law was enacted to protect the water supplies of this state, but on a careful study of the law, and as a result of legal opinion (see opinion relative to Missoula Sewer and Glasgow Sewer) it is determined that this law protects only waters used by a city, town, public institution, water or ice company for domestic use.

This being the case, it appears that the law loses its real strength. To protect waters used only by cities, towns, etc., does not protect the water used by individuals living between these towns. While it is important to protect citizens living in towns and cities, it is equally important to protect the health and lives of those not living in towns and cities. In addition to this the towns and cities can protect themselves from polluted waters by installing water purification plants, thus overcoming the effects of polluting matter in a water supply, so far as regards the people living in such towns and cities. But the individual farmer and small communities cannot afford to install water purification plants, and cannot in this way protect themselves from the effects of pollution. Therefore it is more important that the waters used by small communities and individual farmers be protected than that the water supplies of cities and towns be protected.

In polluting the water used by farmers and small communities there is introduced an element of danger to those living in cities aside from the direct influence on the water used by such city dwellers. This danger consists in the use of such waters by dairies, and results in the pollution of milk delivered to the citizens of the cities. Not only is the milk polluted, but vegetables that are eaten raw, such as lettuce, celery, raddishes, etc., are washed with this polluted water, and the pollution is delivered to the people of the city with such vegetables. Thus the protection of the water supply between

cities is of as much interest to the city dweller as is the protection of the water supply for the city.

From a financial standpoint, it is no more expensive for the city to purify its sewage, and thus protect the streams, than it is for the city to install a water purification plant.

Section 1562 Revised Codes of Montana, 1907 (A portion of this water purification act) provides that the State Board of Health may employ and fix the compensation of expert assistants and engineers in order to carry out the provisions of this Act, but the Law or the General Appropriation Bill does not provide the money for such expert assistants.

Further, in Section 1570, the State Board of Health is authorized to establish and maintain an experimental station in order to study the best methods of avoiding pollution of water and the purification of sewage.

Of course the individual members of the State Board of Health would be delighted to employ these expert assistants and to pay for the establishment and maintenance of such an experimental station, but the majority of the members of this Board would find themselves financially embarrassed should they be called upon to pay the salary necessary for even one expert sanitary engineer. It seems absurd to authorize a board to employ assistants and to maintain an experimental plant without providing the funds for such purposes.

The question has been frequently asked "What are other states doing in the matter?" In reply to this I submit a few replies to letters written Boards of Health of other states.

State Board of Health of Maryland,
Baltimore, June 14, 1910.

Dr. T. D. Tuttle,
Secretary State Board of Health,
Helena, Montana.

Dear Doctor:

I have at hand your letter of June 1st, in reference to water and sewage purification in this state. The estimates which I can give are fairly accurate in some cases and only approximate in others. The State Legislature has required Baltimore City to purify its sewage, mainly on account of the oysters, as the effluent will discharge into Chesapeake Bay, which is salt water and unfit for drinking. The cost of the present plant will be paid for out of the sewage loan, and will amount

in round figures to $1,500,000. The small experimental plant at Walbrook will cost in the neighborhood of $13,000. Neither of these estimates include land or sewerage connections. The second largest plant, located at Govanstown, Baltimore County, cost between thirty and forty thousand dollars ($40,000). A very large plant is to be constructed at Mt. Washington, taking in the bulk of the suburban towns of Baltimore County. No estimate has been made on this plant, it will probably cost anywhere from $100,000 to $500,000. The estimated cost of the Dupont Park plant is about $8,000. The Ten Hills, $6,000 to $7,000. A number of other plants will be constructed along the streams which flow through Baltimore City. There are two streams flowing through Baltimore, Gwynn's Run and Jones' Falls.. These have been used for sewage disposal for more than twenty years, and as a consequence, are now carrying a larger volume of sewage than they can properly dispose of. As a consequence they now constitute a nuisance, not only dangerous to health, but an intolerable annoyance at certain seasons of the year. For these rearons the State Board of Health has determined that as soon as the city has installed its plant for the disposal of sewage in northwestern Baltimore, that it will cut off further discharge of raw sewage into these streams from Baltimore County. We are thus compelled to correct a state of affairs, steps for preventing which should have been taken twenty years ago. I hope you will impress upon the members of your legislature the extreme unwisdom and shortsightedness of repealing your statutes relating to sewage disposal. I have examined the Montana Laws and consider them both practical and efficient.

In reference to a water purification plant, the largest plant in this state is that of the Baltimore County Water and Electric Co., at Avalon. I do not know the cost of construction of this plant, but it cannot be less than $50,000, and is probably closer to $150,000. This is a mechanical filtration plant, supplying about 50,000 people. The mechanical plant at Havre de Grace cost, I should judge, from $5,000 to $10,000. I should estimate the cost of the Ozoning Plant at Highlandtown at $15,000 to $20,000. I may say that the bulk of the amounts cited here have been expended in 1909, though as the construction work has continued over more than one year.

it will be impossible for me to give even approximate figures separately for 1909.

Very truly yours,
MARSHALL LANGTON PRICE,
Secretary.

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State of Kansas, Lawrence, June 13, 1910.

Dr. T. D. Tuttle,
Secretary, Montana State Board of Health,
Helena. Mont.

Dear Sir:

Your recent letter addressed to Doctor S. J. Crumbine, Secretary of the State Board of Health at Topeka, has just been forwarded to me for reply.

In response to your request I beg to submit the following information concerning the present status of water purification plants in Kansas:

Up to the present date there has been expended for sewage purification plants approximately $245,000. This includes several plants at present under construction. Of this total sum about $61,000 was expended in 1909.

The water purification plants of the state have been built at an aggregate cost of $385,000.

In addition to the $245,000 named above, about $198,000 is estimated cost of sewage purification plants for which the plans have been partially or wholly completed but for which no contract has as yet been let. Practically all these plants will be built within the next eighteen months, and perhaps others besides.

Similarly, in addition to the $385,000 noted above, approximately $250,000 more will be spent for water purification plants during the next year or two. This latter amount is unusually large just at present, owing to the fact that the plans for the new Kansas City, Kansas, purification plant are now under way. This plant will be a model of its kind, and will undoubtedly be one of the best purification systems in the country.

The foregoing figures are not exact but are nearly so as I can make them without a great deal of labor. I trust that they will serve the purpose for which they are desired.

We think we have an exceptionally good water and sewage

law. Its operation has been such that practically all of the municipalities of the state with which we have come into relation have freely, and in most cases cordially, assented to whatever requirements have been established. We have tried to proceed slowly and cautiously, with the idea of permanency in view rather than that of the greatest possible immediate results. So far we have never had to bring a civil suit under the law to enforce our decisions. This of itself speaks volumes for the fairness and workableness of the law, as in the three years of its existence we have come into administrative relations with practically every city in the state of over a thousand population.

Very truly yours,
W. C. HOAD.

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Commonwealth of Pennsylvania,
Department of Health,
Harrisburg, June 7th, 1910.

Dr. T. D. Tuttle,
Secretary State Board of Health,
Helena, Montana.

My Dear Doctor:

Answering your inquiry of June 1st, I beg to say that we have over sixty purification plants in Pennsylvania and they range in cost from $10,000.00 up to $500,000.00. A number of our state institutions have built sewage works and the plants cost on an average of $25,000.00 to $30,000.00 each. These state institutions have a population of one thousand to fifteen hundred inmates, officers and attendants.

We have more than sixty water filter plants. For instance, Philadelphia has a filter plant which filters over 200,000,000 gallons of water in 24 hours. Pittsburg has a filter plant which produces 70,000,000 gallons of filtered water every day. Most all of our important places in Pennsylvania have filter plants, and we are active in bringing about the adoption of filters for the smaller places. I can give you no approximate estimate even of the cost. The total sum runs up into a great many millions of dollars.

Our work shows more and more every year, that is, we have a large increased number of both water and sewage plants as the years go by. I trust this will come somewhere near

answering the questions as you wish them answered. I am,

Very truly yours,

SAMUEL C. DIXON.

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State Board of Health,
Boston, Mass., June 27, 1910.

Dr. T. D. Tuttle,
Secretary State Board of Health,
Helena, Montana.

Dear Sir:

Your letter to the secretary of our board has been referred to me for reply.

It is of course impossible for me to find accurace answers to the questions you ask, but probably at least $2,000,00 have been expended in this state for sewage purification plants; $500,000 for water filtration plants and very much more for improving waters supplies in other ways than filtration, and the approximate amount expended in 1909 for sewage purification plants was about $300,000 I think. In this state new laws are being constantly made to prevent further pollution of streams, to do away with pollution already existing and to improve water supplies. These figures are not for publication I trust, as they are only approximate. In this case also, as you probably know, the State Board of Health has a large department of engineers, chemists, etc., whose entire duty is to investigate problems of water and sewage pollution and purification and in connection with this work many thousand analyses are made each year.

Yours very truly,

H. W. CLARK.

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State of Indiana, State Board of Health,
Indianapolis, June 16, 1910.

Dr. T. D. Tuttle,
Secretary State Board of Health,
Helena, Montana.

Dear Doctor:

In reply to your circular letter of June 1, I have been absent. I have also been in the hospital on account of an accident, and this explains my seeming neglect.

Indiana has entered the fight against stream pollution good

and strong. The legislature of 1909 passed a bill treating purely upon this subject. It forbids the introduction of sewage or industrial wastes into any streams which are used for domestic water supplies or if the introduction of such materials will produce any nuisance or "may generate, promote or transmit disease." Indianapolis is preparing to put in a sewage destruction plant which will cost approximately one million dollars. Our insane hospitals are all provided with sewage plants, the state having spent over one hundred thousand dollars for this purpose. The city of Bedford, 7672 inhabitants which has lately installed septic tanks and filtration beds through which the sewage must pass before the effluent is allowed to flow into a neighboring stream. The city of Anderson 22,505 inhabitants and the city of Muncie, 23,118 inhabitants have had the surveys made and have taken all the preliminary steps toward the sanitary destruction of sewage to prevent the pollution of White river.

The State Board of Health is now conducting surveys of the Indiana cities on Lake Michigan for the purpose of discovering the best and most economical methods of the destruction of sewage so as not to pollute the lake. It is the dirty bird that befouls its own nest, and it certainly is a dirty city that befouls its neighboring streams. Now is the time to preserve the streams of your state pure. They were intended to carry health and refreshment through the land, not to be noisome and bring disease and offense.

Very truly yours,
J. N. HURTY,
Secretary.

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State of Ohio, State Board of Health,
Columbus, Ohio, June 15, 1910.

Dr. T. D. Tuttle,
Secretary State Board of Health,
Helena, Montana.

Dear Doctor:

Answering your letter of the 1st instant, I give you the following information concerning water and sewage purification plants in this state:

| | |
|---|---|
| Approximate cost of sewage purification plants in Ohio ..... | $1,153,000 |
| Approximate cost of water purification plants in Ohio ..... | $8,062,000 |
| Approximate amount expended for sewage purification plants during 1909 .. | $ 140,000 |

Yours truly,

C. O. PROBST,
Secretary.

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These are only a few of the many replies received, and in every instance the importance of protecting the water supplies of the state is urged by Department of Health.

During the two years covered by this report questions relative to protection of water supplies and sewage disposal have come before the Board as follows:

Hamilton has installed a sewer system, and a sewer purification plant, consisting of a settling tank and sand filter bed.

The city of Missoula has installed, or is installing a modern sewer system. This city, through its mayor and the City Attorney, applied for permission to empty her sewage into the Missoula river without purification, and raised the question as to whether streams which were not used as a source of water supply by cities, towns, public institutions, or water or ice companies were included in the section prohibiting putting unpurified sewage into streams, and the opinions of the attorney general rendered in this question is in conformity with the opinion rendered in the Glasgow question. Therefore, the City of Missoula, having submitted evidence in the form of a large number of sworn statements showing that the Missoula river is not used as a source of water supply by any city, town, etc., below the city of Missoula, such city is not prohibited by law from putting raw sewage into the Missoula river.

The town of Laurel made application to install a sewer system to empty directly into the Yellowstone river, and on investigating this question it was found that the Northern Pacific Railway Company had installed a small sewer leading from their round house, engine yards and hotel in the Nutting Addition to the town of Laurel, which emptied into the Yellowstone river, without any purification. It was ordered that a sewage purification plant be installed to purify the sewage from this latter sewer, and that the town of Laurel provide a

sewage purification plant before installing her sewer system. This plant is now in the course of construction, and consists of a large sand filter bed of sufficient size to take off the sewage from this town when it has reached more than double its present population.

In 1907, Miles City proposed to extend her sewer outlet from its mouth in the old bed of the Tongue River, or a slough leading from Tongue river, to a point where it would open directly into the Yellowstone river. This action was prohibited by the State Board of Health, and the city of Miles City ordered to provide sanitary measures for the purpose of purifying her sewage before it entered the Yellowstone river. The city appealed from the decision of the Board in this matter to the District Court and there the decision was against the Board of Health. The case was appealed to the Supreme Court and was passed on in 1909, the Board of Health being supported in its stand relative to this sewer. The result is that Miles City now has under construction municipal improvements consisting of waterworks, sewerage and lighting system that will place that city in the front rank of the cities in the northwest, that have modern municipal improvements. Few cities in the northwest have installed modern filtration works for their water supply, yet Miles City has not only installed a modern mechanical filtration plant for purifying the water, but the sewage of the City is also purified before discharging it into the Yellowstone river, thereby not endangering people below the City who may have occasion for using the Yellowstone river water.

The success of mechanical filtration in the reduction of typhoid in many eastern cities, notably in Columbus and Cincinnati, has been one incentive towards the installation of mechanical purification plants in smaller cities, and when the successful results of the Miles City plant become generally known it is expected that few cities will remain content to drink unfiltered water, thereby endangering the health of the community from typhoid and other waterborn diseases.

Yellowstone river water is as pure as the average mountain stream, but has been becoming more and more polluted from the discharge of sewage to drink the water without purification, and to restore the river to its original purity it has become necessary to prevent the discharge of raw sewage into the

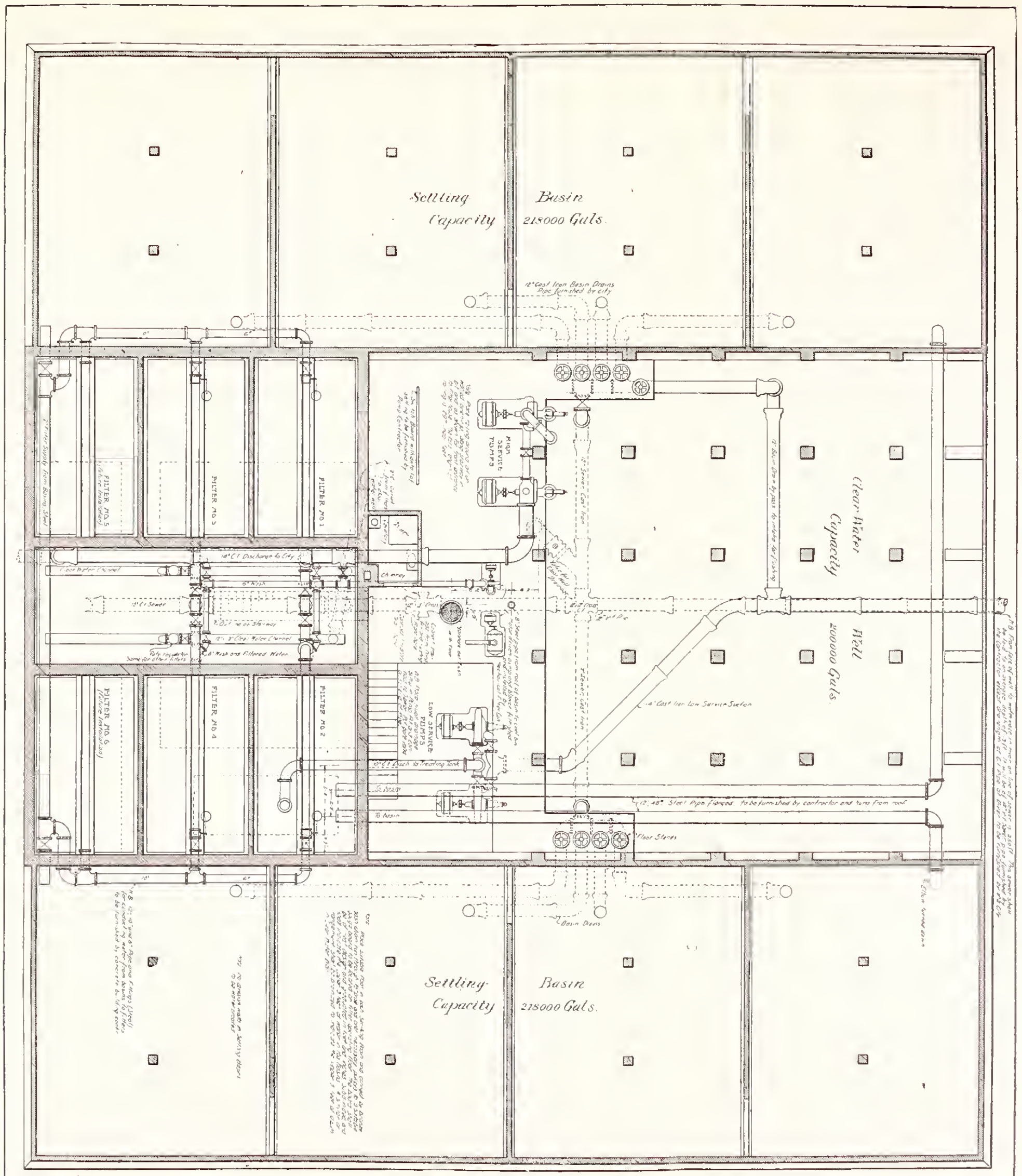
stream. Chemical analysis of the water in the Yellowstone river, made by the Department of Public Health, has detected colon bacilli and other water-born disease germs, and in order that the municipality be served with the best water obtainable, the city, upon the advice of its engineers and the officials of the Department of Public Health, decided to install a complete water purification system—one that would remove not only sediment from the water, but disease germs as well. Besides having the satisfaction of supplying the city with absolutely pure water, the city will profit financially by having a large increase in the revenue from the sale of water, because many customers who would hesitate about using raw river water will gladly become patrons of the new municipal works, when they are assured that the water supply will be absolutely pure and safe.

The water-works plant, which is now about one-half completed, provides for the taking of the river water by the use of two-million gallon electrically operated pumps which will discharge the water into re-inforced concrete settling basins. The intake provides for taking water from near the center of the Yellowstone river at a point about eight feet below the surface of the water. This long intake is provided in order to get pure water and to be free from any shore contamination or difficulties from ice. The settling basins are divided into several compartments separated by concrete walls and arranged so that a coagulant of lime and iron will be admitted to the settling basins to aid in precipitating the sediment to the bottom of the basins. The settling basins are re-inforced concrete construction with re-inforced concrete roof to prevent freezing. They are arranged so that each compartment can be cleaned separately with the wasting of but a small portion of the water at the time of cleaning each compartment. After settling the coarser sediment from the water in the settling basins the water will flow by gravity through four filters each having a capacity of 500,000 gallons per day. These filters are also of re-inforced concrete construction, arranged so that the water flows through coarse sand and broken rock, finding its outlet at the bottom of a manifold system of brass pipes into which the water is controlled automatically by rate controlling devices. The filters are cleaned by reversing the direction of flow and by passing pure filtered water upward

through the sand during the cleaning process. About ten minutes time would be required to wash each filter. During clear stages of the river, this cleaning process would probably not need to take place more than once every two weeks, but during muddy stages of the river the filters should be cleaned daily. They are arranged so that the operator can open and close the valves necessary for cleaning and conduct the entire cleaning process by merely pressing buttons on the marble top operating table. The operating table is equipped with all instruments necessary to detect the satisfactory operation of the filters, so that the operator can notice the rate of filtration, when cleaning becomes necessary and has before him at all times for comparison the raw river water and clear filtered water, so that he can detect at once the results of filtration. It is estimated that the cost of the necessary chemicals in the operation of the filters will not exceed one-third of a cent per thousand gallons. A guarantee of results insures the removal of an average of ninety-eight and one-half per cent of all impurities. Arrangements are made so that the operator can make hourly tests to determine the standard of purity.

After the water has passed through various stages of treatment in the settling basins and filters, it will flow into a reinforced concrete clear water well where it is stored until such time as it is pumped into the water mains. The clear water reservoir also is covered to exclude any dirt or impurities from the water. From the clear water well the water is pumped by electrically operated turbine pumps into the water mains and also into the elevated steel tower and tank which has a capacity of 200,000 gallons and is at an elevation of approximately 175 feet above the business houses. The high pressure pumps are in duplicate and their operation is controlled by two hydraulically operated valves which will permit the two pumps to be thrown into series, thus increasing the pressure from 180 feet head to 360 feet head, thus furnishing in times of fire large quantities of water at a pressure of approximately 150 pounds per square inch. Both high and low service electrically operated pumps will be controlled and regulated from the switch-board at the station.

The entire plant and basement will be heated by steam heating plant which is part of the original installation. The station is provided with a modern lavatory, wash-room, clothes




# Water Works Plans
# MILES CITY MONTANA

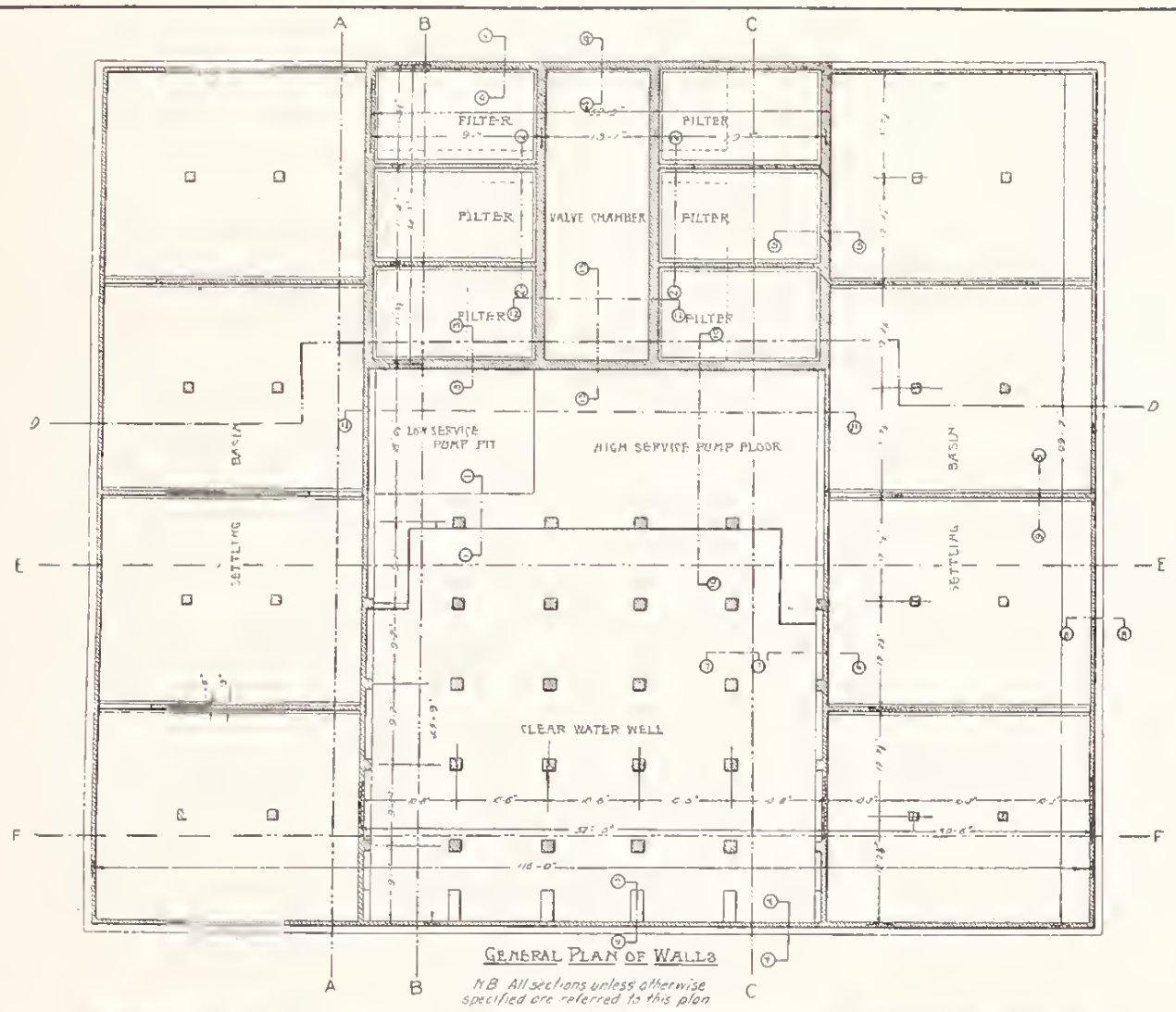
GENERAL PLAN OF MACHINERY SETTING & PIPING

APPROVED
THE MILES CITY COUNCIL
BY ... MAYOR
ATTEST ... CLERK
DATED ... 1910

BURNS & McDONNELL
ENGINEERS KANSAS CITY MO

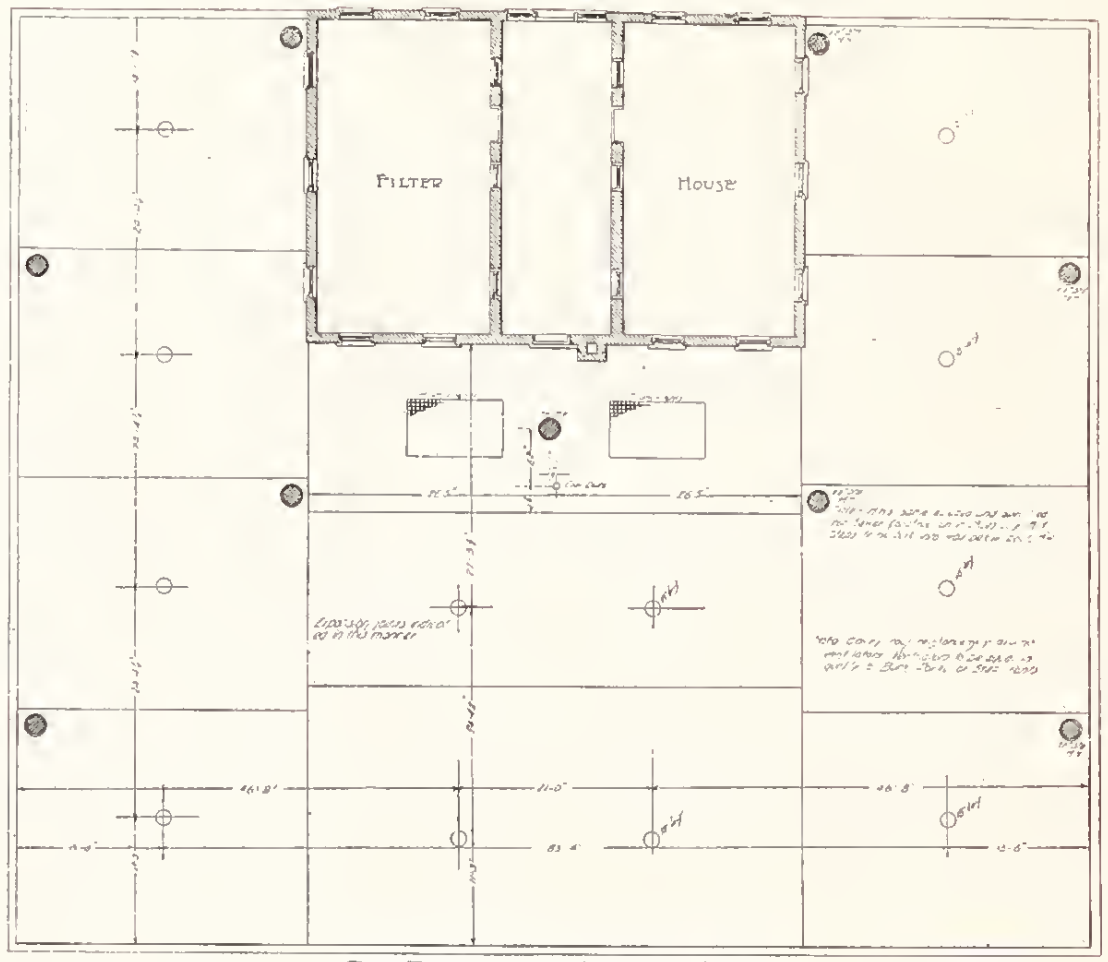
Scale ½" = 1 foot

12 of 15

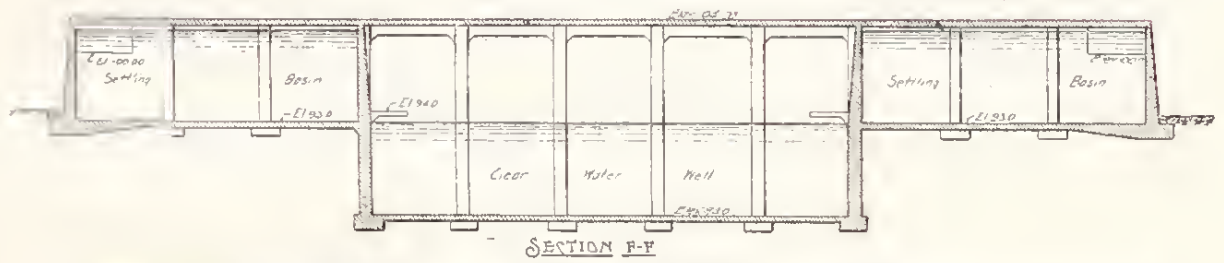



GENERAL PLAN OF WALLS

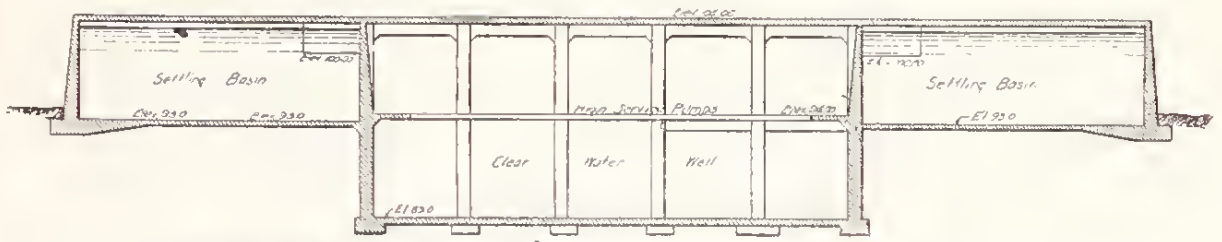
N.B. All sections unless otherwise specified are referred to this plan



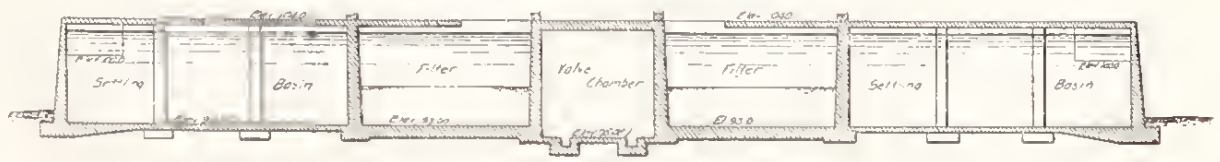

ROOF PLAN SHOWING EXPANSION JOINTS ETC



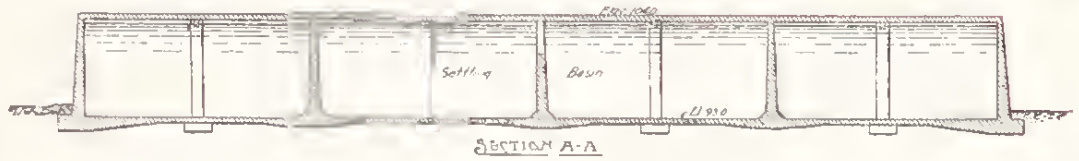

SECTION F-F



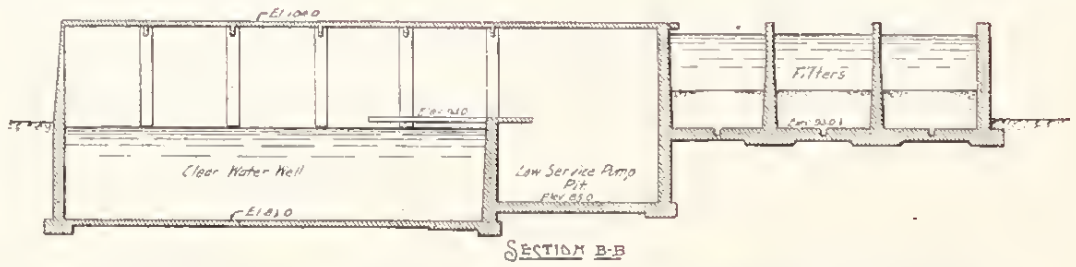

SECTION E-E



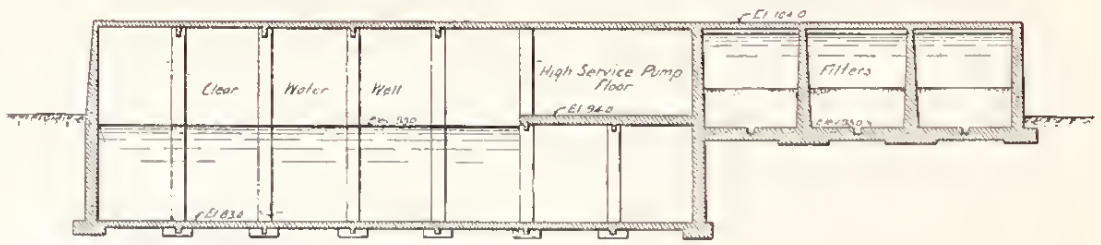

SECTION D-D




SECTION A-A




SECTION B-B




SECTION C-C

Note Expansion joints are to be made in the roof slab along the lines shown in the plan above. They shall consist of a 3/4" opening left in the slab during concreting which is afterwards to be filled in with asphalt. The lower surface of the slab shall be prevented from bonding in the concrete below by the use of a layer of tarred paper

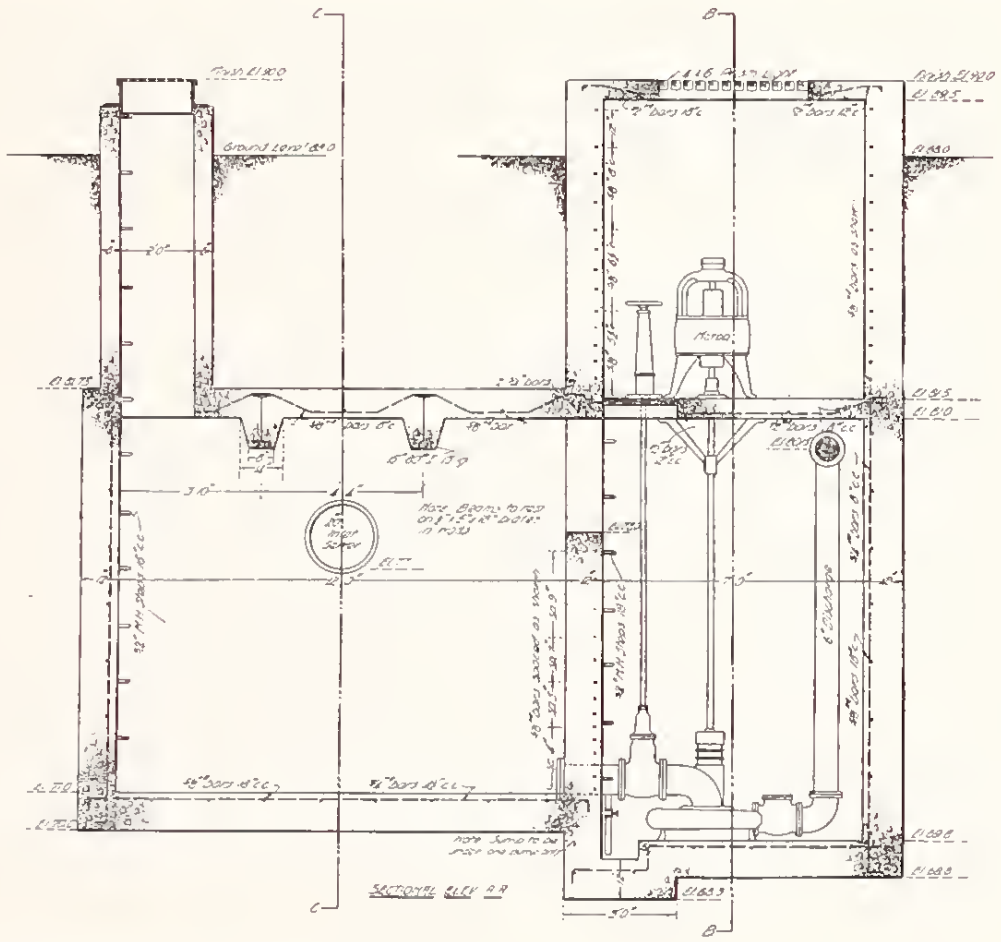
# Water Works Plans
# MILES CITY, MONTANA.

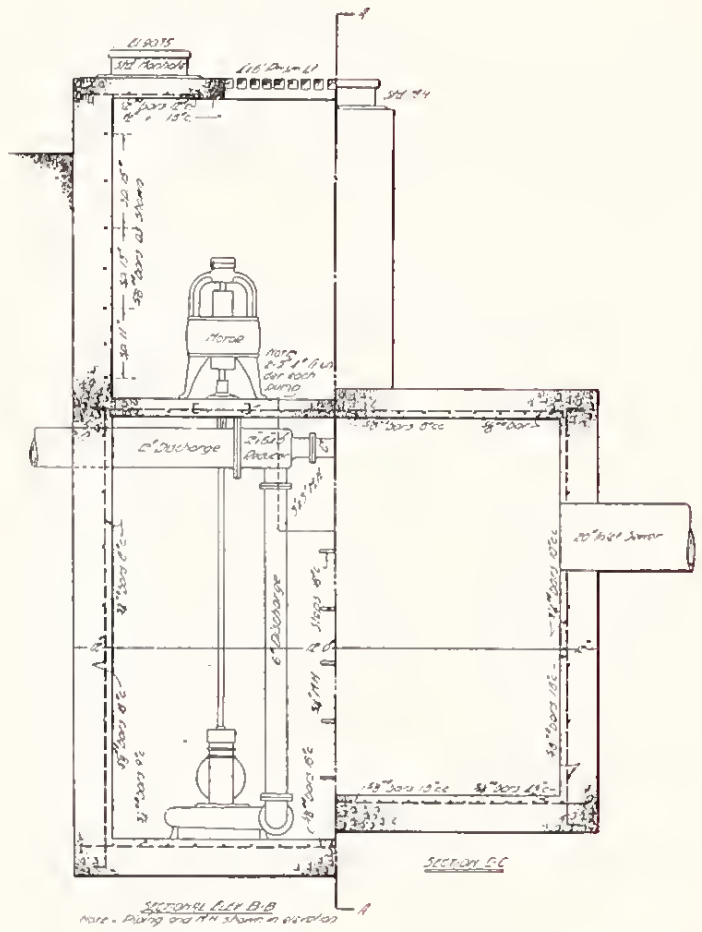
DETAILS OF WATER WORKS PLANT

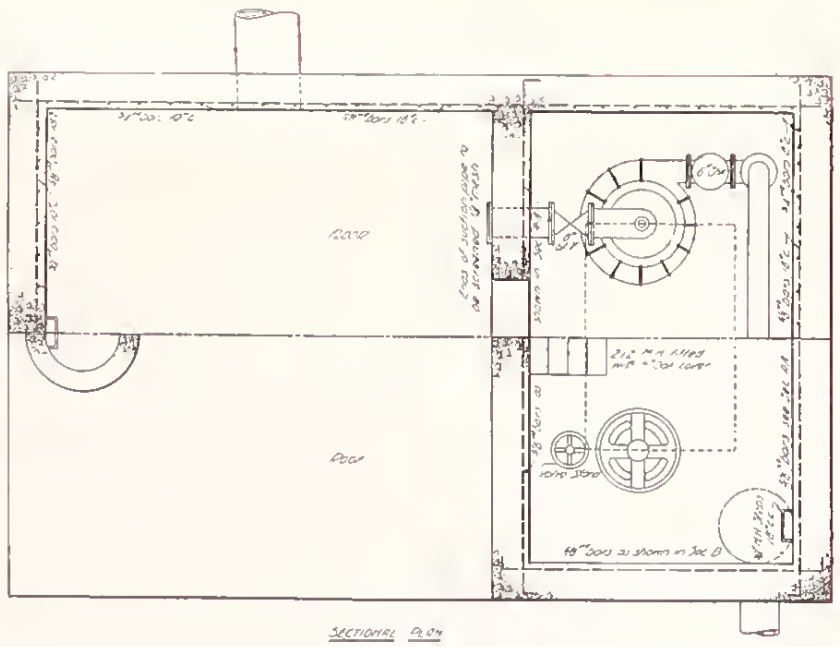
APPROVED
THE MILES CITY COUNCIL
BY ---
BY ---
DATE ---

BURNS & McDONNELL
ENGINEERS KANSAS CITY, MO.

Scale 1" = 1 foot




SANITARY SEWERS

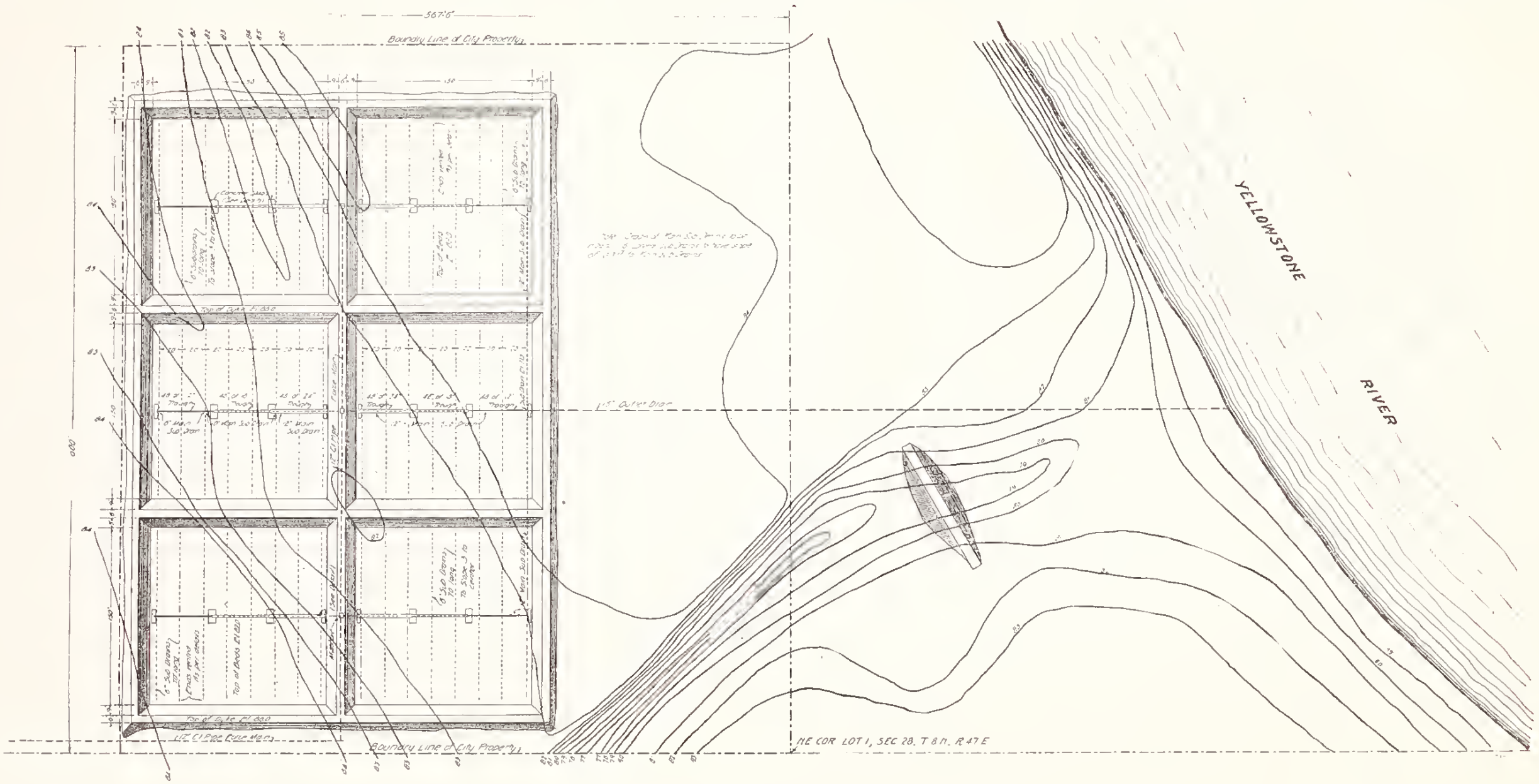
# MILES·CITY·MONTANA

DETAILS OF SEWAGE PUMPING STATION

BURNS & McDONNELL
ENGINEERS KANSAS CITY MO

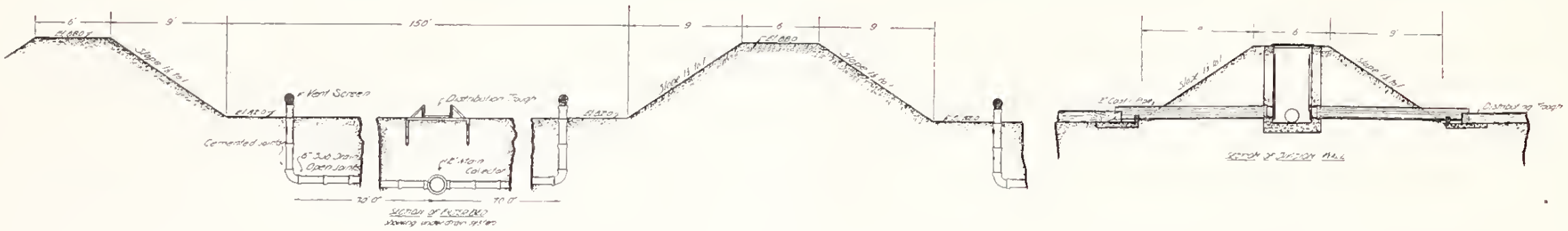
Scale ½" = 1 Foot

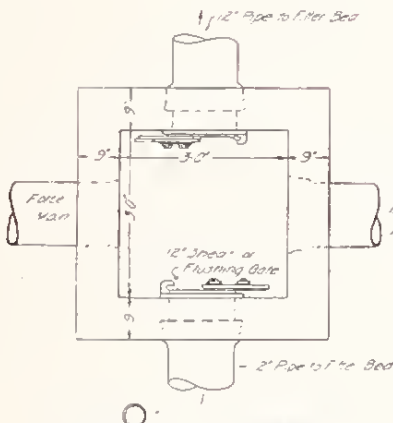
APPROVED:
THE MILES CITY CITY COUNCIL
BY [illegible]
ATTEST: [illegible]
DATE Nov 12 1930

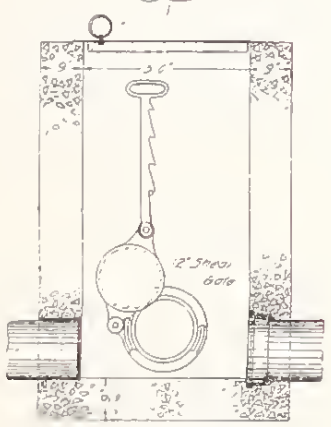


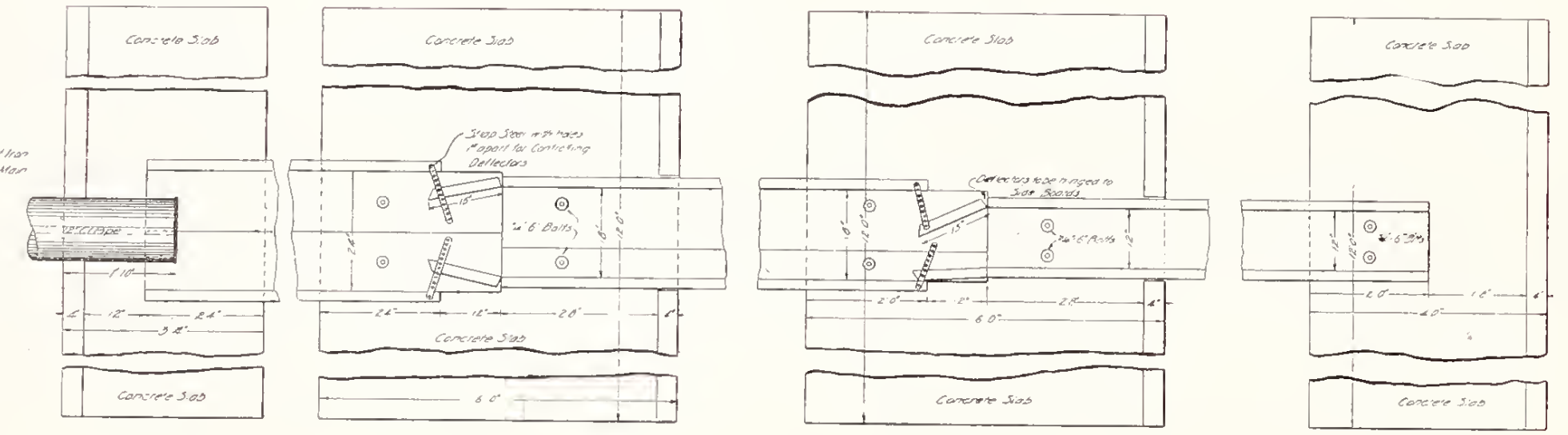

APPROVED
THE MILES CITY COUNCIL
BY _____ MAYOR
BY J. E. Fassman City Clerk
Date June 12 1910

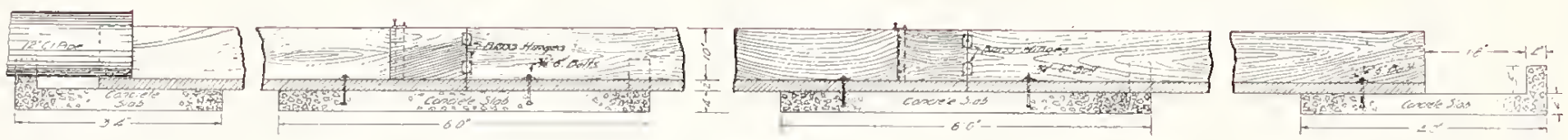
SANITARY SEWERS
# MILES CITY MONTANA
GENERAL LAYOUT OF FILTER BEDS
BURNS & McDONNELL
ENGINEERS KANSAS CITY MO.
Scale 1" = 40 Feet



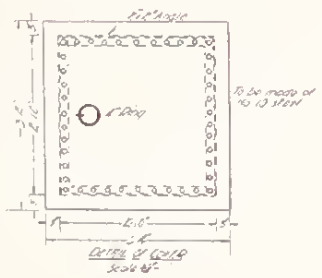



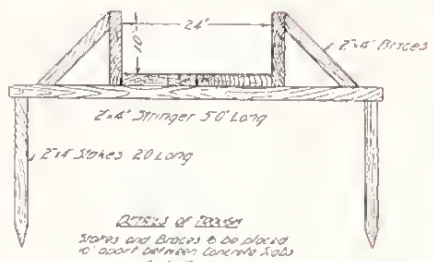




Details of Distributing Trough
Scale 1"=1'
To be made of 2" Cypress




Details of Trough
Stakes and Braces to be placed 10' apart between Concrete Slabs
Scale 1"=1'

Approved
for Miles City
By ... Field Supt. ... Supt.
By ... J.E. Farnam ... City Eng.
Date ... July 12 ... 1910

SANITARY SEWERS

# MILES CITY MONTANA

MISCELLANEOUS DETAILS OF FILTER BED

Burns & McDonnell
Engineers Kansas City Mo.

Scale 1" = 1'0"

lockers and all conveniences for employees. The filter house will be of pressed brick with asbestos shingles for roofing. The entire design and construction calls for the use of the very best materials, a structure entirely fire-proof, well lighted and planned for future extensions and additions, so as not to interfere with the operation of the works.

Believing that pure water is just as necessary as pure food, special care has been taken to prevent any dirt or contamination, and to give to the citizens an object lesson in safeguarding and protecting the health of the citizens. The water is distributed through a system of cast iron water mains in which dead ends and stagnant water in them have been worked. The steel tower and tank is provided with a roof, in order to exclude any birds or dirt getting in contact with the stored water. The plant has been designed entirely in duplicate, so that in case of an accident to any one unit, there will be no interruption in the operation. Everything about the plant and the entire waterworks is designed with a view of supplying the city for future population of two and one-half times the present population. The main steam power plant in the city consists of high pressure boilers connected in a battery to a 72" chimney. The walls of the building are of pressed brick with molded concrete trimmings and brick set in relief. The plans and specifications were drawn by the engineers so that the separate bids were received on the construction and furnishing of materials. Two hundred and thirty thousand dollars were provided by a bond issue for the improvements and contracts were let within the estimate for everything completed. A total of ninety-two sealed bids were received from contractors and material dealers at the time set for receiving bids. At the rate construction work is progressing the entire plant should be ready for operation early in the spring, and any one interested in municipal improvements would be well repaid in making a visit to see the results that can be attained by a modern water-works filtration plant.

### Sanitary Sewers.

It would be of little use to purify water and then contaminate the same source of water supply by discharging raw sewage into the stream, consequently Miles City has under construction a sewage purification plant located near the banks of the Yellowstone river where the sewage is first collected in a reser-

voir and it is then lifted by electrically operated pumps to a sewage purification plant where it is treated and the effluent then after purification flowing into the Yellowstone river. The mains and laterals of the sewer consists of hard glazed vitrified sewer pipe. Ample provision has been made for ventilation of the sewer by man-holes and automatic flush-tanks are provided at the end of the laterals for automatically flushing and cleaning the sewers. The lines are laid at such depth and grade as to permit drainage from cellars, basements and closets. Separate contracts were let for the sewers.

Owing to the high stage of the river bed above the level of some of the sewers, it becomes necessary to pump the sewage for a portion of the year. A number of cities in Montana and other Northwestern states have been troubled greatly by a large amount of ground water in the sewers. In some cases, such as Bozeman, Livingston and Billings, this ground water has occured in such large quantities as to seriously impair the carrying capacity of the sewers. In order to avoid any trouble from this account at Miles City the mains and laterals are provided with sub-drain for all of the system where ground water is encountered. This becomes very necessary in designing of a sewage purification plant, because no city wishes to go to a large expense in purifying sewage that is largely diluted water which seeps into the sewers from the ground. The construction of the two lines for the main sewer and sub-drains will be considerably cheaper than the construction of one sewer large enough to accomodate ground water leakage through the joints. In addition to providing sub-drains for the sewers, the joints of the sewers are made of Portland Cement mortar, water-proofed by means of a water-proofing compound, thereby keeping the joints water-tight. The sub-drains from 6" to 12" in diameter. The lay of the ground is such as to make it impossible to secure gravity flow to a suitable disposal site for the sewage purification works.

The sewage will be lifted by motor driven pumps at a normal rate of 1,000 gallons per minute, or during emergencies at the rate of 2,000 gallons per minute. The sewage purification plant embodies the principal of ground bacteria purification and is provided with six filter beds upon which the raw sewage flows. These filter-beds will be sub-drained by a system of under-drains, so that the sewage after filtering through sand

and coarse gravel collects in under-drains flowing to an outlet in the Yellowstone river. The filters are arranged so that they can be intermittently used, thus permitting the oxidizing of any organic particles of sewage collecting on top of the filter beds. The character of the soil and material in Miles City, as well as many other cities in Montana, is well adapted to this method of purifficatión. Many cities have utilized septic tanks, sedimentation basins and other means of purification, and not many are fortunate enough to have suitable material for a method of purification such as is used at Miles City, although towns located along rivers can usually find suitable soil for such purification plant.

Nine states now have laws preventing raw sewage being dumped into the streams of the state, and there is no doubt but that National Legislation will soon prevent any city discharging its filth into a stream without purification, and any city planning its municipal improvements should look far enough into the future to provide a modern method of sewage purification, not only to protect the health of the people below, but to avoid loss by damage suits brought by people living below, whose property is damaged by discharging raw sewage into streams. It seems like an unwise policy for municipalities to wait for an epidemic of typhoid fever before they realize the necessity of pure water and better sanitation.

The surveys, plans and specifications for the entire works at Miles City were prepared by Consulting Engineers, Burns & McDonnell, Scarritt Building, Kansas City, Missouri, and the work is being installed under the direction of Mr. G. C. Pruett, City Engineer.

The accompanying cuts will show most of the important details of construction.

The townsite of Trident built a sewer system without submitting plans of the same to the State Board of Health. Just before this system was put into use, knowledge of its existance came to the State Board and it was found that this system proposed to empty directly into the Missouri river without any system of purification. The Trident Cement Company were notified of the law relative to sewage purification and they have proceeded to install a purification system.

This system consists in flowing the sewage into a water tight cement well, from which it is pumped into a settling tank and

from this settling tank goes to a sand filter bed and thence to the river.

In April, 1910, the town of Glasgow made application for permission to install a sewer system which would empty into Milk river without purification. On investigation it was found that Milk river, below the town of Glasgow, is not used as a source of domestic water supply by any city, town, public institution or water or ice company. In addition to the investigation made along this line by the Secretary of this Board, the authorities of Glasgow submitted a large number of sworn statement showing that the water of this river is not used as source of domestic supply by any city, town, etc.

The fact that this question was under investigation by the Board of Health was published in the papers of Valley county, and those interested in the matter invited to appear in person, or by petition, before the board. In response to this notice petitions signed by a large number of people were submitted, stating that they depended on this source of supply for domestic purposes. The question was submitted to the Attorney General, and his opinion is as follows:

Helena, Mont., May 16, 1910.

Hon. Thomas. D. Tuttle,
Secretary State Board of Health,
Helena, Mont.

Dear Sir:

I am in receipt of your favor of May 10th, 1910, wherein you state that the City of Glasgow makes appplication to the State Board of Health for permission to install a system of sewers with a proposed outlet directly into Milk river. You state further that affidavits are filed with the board in considerable number which show that the waters of Milk River are not used below the town of Glasgow by any city or town or public institution as a source of water supply, or by any water or ice company for domestic use. You state further, however, that numerous residents along the course of Milk River have filed protests against the discharge of sewage from the City of Glasgow into Milk River, alleging that they use these waters for domestic purposes. This use, however, it seems is the use of individuals and families, and does not come within the use contemplated in Section 1564. It is my opinion that the prohibition contained in Section 1564 extends only to those springs,

ponds, lakes, streams or other sources of water or ice supply which are used by cities, towns, public institutions or companies supplying water or ice.

This opinion is in conformity with an opinion addressed to you on October 25, 1909, when the question of sewer outlet at the City of Missoula was under consideration,

The only case in which the Supreme Court of this State has been called upon to interpret Secs. 1559 to 1572, Revised Codes which is the Act contained in Chapter 177, Session Laws of 1907, is that of Miles City V. State Board of Health, an appeal of the State Board of Health from an order of the District Judge allowing the City to dump its sewage directly into the Yellowstone River. In this case an agreeed statement of facts was prepared showing that the water of the Yellowstone River was used by the City of Glendive, an invcorporated city situated below Miles City on the banks of the Yellowstone River. The Supreme Court held in this case that irrespective of the actual pollution of the water at the point of intake by the City of Glendive, the statute absolutely prohibited the dumping of sewage containing human excreta into the river at any point in the State of Montana when it appeared that the water was used as a source of water supply, and if the showing made by the residents convinces the Board that the waters of Milk River are not used by any city or town or public institution, or water or ice company, then the case above referred to has no application to this question; and you are advised that there is no statutory enactment prohibiting the Board of Health from granting permission to install the proposed system in the city of Glasgow, if they see fit to do so, as, in my opinion, Chapter 177, Session Laws of 1907, does not cover the conditions presented in this case.

In this opinion, we, of course, do not consider the rights of riparian owners to have the water flow past their premises in its natural state of purity, as that is a matter with which your Board is not concerned, but rather one for adjustment between these parties and the City by civil action.

Yours very truly,

ALBERT J. GALEN,

Attorney General,

Therefore, because it would cost the city of Glasgow some money to purify her sewage, the health of individuals living along this stream below the town of Glasgow is endangered and their only recourse is personal suits brought against the town of Glasgow, a course that the average individual is not apt to take.

In addition to the above mentioned questions relative to sewage disposal the general question was taken up by the Board and all cities now having sewers emptying into any stream which is used as a source of water supply by any city, town, public institution or water or ice company have been notified of the requirements of this law, and ordered to install sewage purification plants acceptable to the State Board of Health on or before the first day of October, 1911. This action gives these various cities abundant time to provide ways and means of installing such plants and to secure the services of competent engineers in making plans for such plants.

# Water Supplies.

It has long been the desire of this board to make a thorough study of the waters of the State, and determine a standard of purity for waters in Montana. his work has been prevented by a lack of funds. In 1909, we found that the Department of Chemistry, under the charge of Prof. W. M. Cobleigh of Bozeman, was interested in this very subject, and that Prof. Cobleigh was willing to make these analysises without cost to the State, other than to defray his expenses in collecting samples throughout the State. A large amount of water has been exx- by Prof. Cobleigh, and we submit herewith only a comparatively few examples of results found.

In Table X., we submit an analysis of waters from the Deer Lodge and Missoula rivers. In sample 274, we find evidences of pollution above the source of contamination coming from Anaconda. This pollution must come from the City of Butte.

In samples 272 and 273 the effects of sand filtration are clearly shown, a small sand filter being used at the State Insane Asylum, and it will be noted on referring to these two samples that the tests show a drop in organic matters between the sample taken from the tap in the engine house.

Sample 276 shows more organic matter than does sample 275. We would naturally expect that Race Creek would cause a diminution in the organic matters in the Deer Lodge River, but, on the contrary, it shows an increase in the amount of organic matter present. This increase must come as the result of irrigating water returning to Race Creek and Deer Lodge River.

TABLE X.

ANALYSES OF WATERS OF DEER LODGE AND MISSOULA RIVERS.

| No. | Description of Sample | Date Sampled.... | | Free Ammonia.... | Albuminoid Ammonia..... | Nitrites..... | Nitrates..... | Oxygen Required. | Chlorine..... |
|---|---|---|---|---|---|---|---|---|---|
| 247 | Deer Lodge River above Anaconda sewer and Smelter, effluent.. | July | 5 | 0.259 | 0.291 | 0.04 | 0,.4 | 7.10 | 1.5 |
| 275 | Deer Lodge R. 3 miles below pollution from Anaconda ..... | July | 5 | 0.5 | 0.43 | 0.042 | 1.6 | 7.35 | 15.0 |
| 272 | Warm Springs Creek below intake ditch, Asylum water supply.. | July | 5 | 0.064 | 0.331 | 0.032 | 1.2 | 2.85 | 3.5 |
| 273 | Tap in engine house at Asylum ..... | July | 5 | 0.02 | 0.085 | 0.008 | 1.14 | 2.35 | 2.0 |
| 276 | Deer Lodge R. above Penitentiary ..... | July | 5 | 0.12 | 0.435 | 0.014 | 0.8 | 14.35 | 12.1 |
| 277 | Deer Lodge R. below mouth Deer Lodge sewer ..... | July | 5 | 0.135 | 0.665 | 0.18 | 0.6 | 17.35 | 14.5 |
| 280 | Deer Lodge R. above mouth Little Blackfoot ..... | July | 5 | 0,.084 | 0.601 | 0.006 | 0.7 | 4.55 | 12.7 |
| 279 | Little Blackfoot R., just above mouth, at N. P. Ry. Crossing..... | July | 5 | 0.35 | 0.18 | 0,.003 | 0.2 | 1.55 | 1.5 |
| 281 | Deer Lodge R. below Garrison ..... | July | 5 | 0.049 | 0.276 | 0.009 | 1.2 | 3.05 | 10.1 |
| 211 | Missoula R. north bank ½ mile above city ..... | May | 6 | 0.01 | 0.08 | None | Trace | 3,.2 | None |
| 212 | Missoula R. 100 feet East of Higgins Ave., South bank ..... | May | 7 | 0.04 | 0.085 | None | Trace | 3,.6 | None |
| 213 | Missoula R. North bank 300 feet above mouth of city sewer ..... | May | 7 | 0,.01 | 0.10 | 0.003 | Trace | 3.6 | None |
| 214 | Missoula R. North bank ½ mile below city sewer ..... | May | 7 | 0.025 | 0.125 | 0.002 | Trace | 3.9 | Trace |
| 215 | Missoula R. North bank 8 miles below Missoula and below mouth of Bitter Root R. ..... | May | 7 | 0.02 | 0.105 | None | Trace | 3.3 | None |

All water analyses are recorded in parts per 1,000,000.

One of the most interesting points is the freedom of organic matter in the Missoula River, one-half mile above the City. Compare this with sample (No. 211), with sample No. 344, Table XI., taken from the Yellowstone river fourteen miles below Billings. This shows that, while the Missoula river at Missoula is clouded by the effluent from the Anaconda smelter, it is a much purer water supply than is the water of the Yellowstone River at Huntley, which was comparatively clear at the time the sample was taken. This is one of the best illustrations that we can find of the fact that clear water may be much worse than muddy water.

The study of the Deer Lodge and Missoula rivers is by no means complete.

### Laurel Water Supply.

In 1909 a severe epidemic of typhoid fever broke out in the Nutting addition to the town of Laurel. Investigation showed that the water supply for the people affected came from a well, the water entering the well from the Yellowstone river by a gravity pipe.

Before the typhoid epidemic broke out this gravity pipe had become stopped up with sand. Nevertheless, it was found that an abundant supply of water was constantly present in the well as a result of seepage. A study of the conditions surrounding the well showed that the sewer from this Addition to the town of Laurel emptied into a drainage ditch above the well, and above the point at which the gravity pipe crossed this ditch only a short distance below the surface. It was evident that the sewage entered this well not only by seepage, but that it had good opportunity to flow along the course of the gravity supply pipe and enter the well without any filtration whatever.

The use of this water for domestic purposes was immediately ordered discontinued. It was further ordered that the well be abolished, and that water be pumped directly from the river without the intervention of any form of well. Accordingly the well was closed, and the gravity supply pipe cleaned out and extended to the middle of the river. Water was then pumped from this pipe into the tank, and arrangements were made to thoroughly disinfect the tank in order that all former pollution might be removed. Before disinfecting the tank, however, it was deemed wise to examine the water and see

whether chemical analysis would show that the water in the tank was the same as the water in the river. This was done, and the analyses showed the water in the tank to be very high in sulphates, organic matter and solids, as compared with the water in the river. This demonstrated that seepage water was entering the pipe at some point. Investigation showed a very large leak in the pipe between the old well and the river, and it was at this point that seepage water, carrying a large amount of polluting matter, entered the pipes. The railway Company were ordered to so repair the pipes that the water pumped into the tank would be the same as that in the river. These pipes were repaired by patch work at first. One leak would be patched and then we would be notified that the water was being pumped directly from the river, but analyses demonstrated evidence of seepage entering the water pipes. This was gone through with repeatedly until final chemical analyses demonstrated the fact that all leaks had been stopped, and this water was then appproved as a source of domestic supply to the Nutting Addition to the town of Laurel.

At the same time chemical studies were being made of the river water above this point, which it was proposed to use as a source of water supply for the town of Laurel. It was found that near the shore this water showed evidences of pollution, whereas near the center of the river the evidence of pollution was not nearly so great as that near the shore. On investigation a slough was found to open into the river a short distance above the point at which it was proposed to pump water for the town of Laurel. Analyses of the waters of this slough showed them to be very high in organic matters, and it was evident that this slough was the source of increased pollution at the proposed point of intake of the Laurel water supply. Several of the analyses made in connection with this investigation are given under Table XII. It was found that the City of Laurel could secure a comparatively pure water supply by extending her intake to the center of the current of the Yellowstone River, and when this was done the water supply of the City of Laurel was approved. I have used the expression "comparatively pure" because, you will note under the subject "Sanitary Survey of the Yellowstone River" that this river is not absolutely pure at any point below Gardiner.

## Sanitary Survey of the Yellowstone River.

This survey was undertaken in July, 1910, its purpose being to determine the degree of pollution of the Yellowstone River, and so far as possible locate the source of such pollution. At the time this investigation was undertaken the river was comparatively high, but at the same time it was clear. There had been no rains for several weeks, and the snow on the water shed, outside of that in the high mountains, had melted so that there was no surface wash going into the river. This constituted a condition in which the river should show to the best advantage, and any pollution found must of necessity be considered as coming from a constant, and not an unusual source of polution.

This survey was made by Prof. W. M. Cobleigh of the State Agricultural College, and T. D. Tuttle of the State Board of Health. The chemical examinations were made by Prof. Cobleigh and the bacteriological examinations were made by Prof. D. B. Swingle of the State Agricultural College. Tabulated statements of the results of these examinations are appended hereto. The results of a single examination of this kind cannot be taken as final evidence with regard to the purity of any water. Such examinations should be made at repeated intervals, extending over a long period of time. However, these results do show the condition existing in the river at the time the examination was made.

It will be noted, especially in the bacteriological work, that there are apparent discrepancies. For instance, referring to samples No. 340 and 342, taken respectively at the mouth of the Billings sewage canal and at a point two and a quarter miles below, we note a steady decrease in the number of B. coli per cc. as a result of dilution by the river water. On the other hand referring to samples Nos. 342 and 344 A, the latter being taken fourteen miles below the Billings Sewer, we notice a decided increase in the number of B. coli per cc. This might appear contradictory, as there are no sewers entering the river between the points at which 342 and 344 A were taken. However, this is not contradictory, it simply shows that a condition exists between these two points that is favorable for the multiplication of bacteria in the water. Repeated examinations would probably show other points of such character.

The chemical analysis of the river shows fairly consistent,

and demonstrates when compared with the bacteriological examination that chemical evidence will not show pollution to the extent that bacteriological evidence shows it.

Starting with the river above Gardiner, the first point of interest noted is the fact that both the Yellowstone River and the Gardiner river above the point of juncture, show a high degree of chlorine. This chlorine is undoubtedly of chemical origin, there being no source of pollution on either river above Gardiner. Its presence, however, must be taken into consideration in dealing with the presence of chlorine below a known source of pollution.

Another point of interest is the fact that in the Yellowstone River, above the mouth of the Gardiner river, we find the presence of nitrites. Nitrites found in water are usually considered as evidence of sewage pollution, or at least of undesirable bacteriological action. But it is known that certain iron salts will convert nitrates into nitrites, and it being known that there are no sources of pollution on the Yellowstone River above the town of Gardiner, it is highly probable that a study of the conditions existing in the Yellowstone National Park will show that these nitrites are due to chemical action, and not to pollution.

Following the river from Gardiner to Livingston we find very little chemical evidence of pollution. We find several sources of pollution, and these sources of pollution show in the bacteriological examination. For instance at the town of Gardiner there are sources of pollution in the form of manure piles, garbage dumps and a small sewer. The effluent of the sewer at Gardiner shows a very high bacteriological count.

In sample 303 taken three miles below Gardiner the chemical examination shows the presence of nitrites to a greater extent than would be justified by the quantity present in the Yellowstone river above the juncture with the Gardiner river. While the exact amount shown is less than that in the Yellowstone river before it united with the Gardiner river, it is more than we should anticipate when this water is diluted by water from the Gardiner river.

Therefore chemical examination shows evidence of pollution entering the river below the juncture of the Yellowstone and Gardiner and physical inspection of the river indicates that this pollution comes from matters entering the river at Gard-

iner, and that these matters come from a small sewer, toilets and manure piles located on the bank of the river at Gardiner. This chemical examination is supported by the bacteriological examination in which we find 250 B. coli per cc.

Sample 303 A taken from Reese Creek, a pure mountain stream, shows 25 B. coli per cc., this pollution coming from barns and out houses located on the bank of the stream, thus showing the influence of a single ranch on a stream.

At Corwin Springs, eight miles below Gardiner, chemical evidence of pollution continues as shown in the sample taken eight miles below Gardiner and in addition to this, bacteriological examination shows 425 B. coli per cc., an increase over the number fond three miles below Gardiner. This increase may be accounted for by the pollution resulting from the small stream that flows through the slaughter house yards, or may be due to favorable conditions resulting from multiplication of bacteria in the water.

Samples 316 and 317, taken at points above the intake of the Livingston Water supply, shows no evidence of pollution, either chemically or bacteriologically, but the effects of surface drainage is shown here by comparing samples 316 and 317 with 362 and 364, these latter samples having been taken on July 22nd, immediately after a cloud burst, and they show evidence of pollution, both as a result of the chemical and bacteriological examination.

At Livingston there is a very small amount of sewage entering the stream, a very small percentage of the houses in Livingston being connected with the sewer. This sewage is of a very concentrated character, it showing 2,000,000 B. coli per cc.

Sample 364 shows that the evidence of pollution by this sewage when mixed with the large volume of the water of the river can be detected only a short distance by chemical examination, the chemical evidence disappearing in sample 312 taken four miles below Livingston. But, referring to the bacteriological examination of these samples, we find that there is bacteriological evidence of pollution in the sample taken ten miles below the City of Livingston.

Even at Springdale (Sample 325) we find 39 B. coli to the cc. Just below the point at which this sample was taken, the creek from Hunter's Hot Springs enters the river, and we

find in sample 366 B that this creek carries 375 B. coli per cc.

Following the river down to Big Timber, at which point sample 318 was taken from the middle of the bridge at Big Timber, we find no chemical evidence of pollution, but we do find 150 B. coli per cc. Between Big Timber and Merrill we find no special points of interest, either from a bacteriological or a chemical standpoint, except the fact that a sample taken four miles below the mouth of the Big Boulder river shows high in chlorine and free ammonia, but our field notes show that at the time this sample was taken a large amount of irrigation water was returning to the river above the point at which this sample was taken, and the increased chlorine is probably due to the surface wash carried with this irrigation water.

Sample 329, taken at the bridge above Merrill, when compared with Sample 330, taken just below the Merrill ranch shows an increase in organic matter, this increase probable being due to the influence of ranch house, barn and corral located on the bank of the river at this point. This presumption is supported by the fact that in sample 330 we find a decided increase in the colon bacilli present.

Now, dropping down to Columbus, in Sample 327 taken from the south bank of the river about one mile below the mouth of the Stillwater river, we note the chemical evidence of the diluting action of this river, this evidence being apparent in the reduced quantity of oxygen required, sulphates, chlorin and solids as compared with samples 330 and 326, the latter being taken at a point on the north bank of the river directly opposite that at which sample 327 was taken.

The chemical examination of the Stillwater river, sample 328, shows a remarkably pure water, but the bacteriological examination does not support this result, 425 B. coli to the cc. being found. This we can account for only theoretically, being forced to assume that there must be a ranch toilet located on the bank of the river a comparatively short distance above the point where the sample was taken. A survey of the side streams was not made, hence this conclusion is purely presumptive.

Sample 326 shows abnormally high in organic matter. This is accounted for by a small muddy stream that flows into the river between a quarter and a half mile above the point at

which the sample was taken. There is also a privy located on the bank of the stream a short distance above. There was no evidence that this privy had been used for some time, and the fact that the bacteriological count shows very low at this point would indicate that this privy is not acting as a source of contamination.

Samples were taken at frequent intervals between Columbus and Laurel, but no findings of especial interest were made except at one point, viz: the sample taken at the mouth of the big ditch about eight miles above Park City shows a pure water, both from a chemical and bacteriological standpoint.

Sample 335 taken from this ditch at Billings shows a decided increase in organic matter, and also in the number of B. coli present, thus demonstrating the pollution that occurs in a ditch running through an open country, and what must result from such pollution when these ditches, as is the case with this particular one, is the sole source of water for domestic purposes for people residing along its course.

Sample 333 taken from Clarke's Fork Creek about four miles above it mouth, shows the presence of nitrites, but no colon bacilli. However, it is entirely possible that at another examination colon bacilli would be found, for it is a well known fact that the town of Red Lodge empties her sewage into a branch of this stream, and the prescence of nitrates here, together with this known condition is very suggestive of bacteriological action in this stream.

Sample 334 taken from the Yellowstone river, south bank, at Laurel, shows 250 B. coli per cc. Comparing this with sample 367 taken on July 25th shows the fact that these bacilli are not constantly present, and the importance of repeated examinations before drawing final conclusions.

Dropping down to Billings, compare sample taken at the bridge about three miles above the intake of the Billings Water Supply with sample 334 taken at Laurel, and note the increase in the organic constituents, as well as in the colon bacilli present. Then compare sample 336 with 337, the latter taken at the intake of the Billings City Water Supply, and you see the influence of sedimentation on B. coli. The Billings intake passes through a long canal in which the water flows very slowly, and in which considerable sedimentation takes place. Further influence of sedimentation is shown in the sample

taken from the tap in the Billings Water Supply.

Notwithstanding this apparent improvement it looks like a bad business risk to use water for domestic purposes when this water shows 1450 B. coli per cc. only three miles above the point at which the water is taken from the river, and this bad-business-risk theory is supported by the fact that typhoid fever is more or less constantly present in Billings, and at times assumes almost epidemic proportions.

Sample 339 taken above the mouth of Billings sewer shows a decided increase in pollution, especially from a chemical standpoint. This is probably accounted for by drainage from the Beet Sugar Factory located between the points at which 336 and 339 were taken.

Sample 340 shows the composition of Billings sewage as it enters the river below the bridge east of the city of Billings. In addition to the usual constituents of sewage we find a high per cent of "alkali" salts. These salts serve as an additional guide in demonstrating the extent to which the sewage pollutes the river.

Between Billings and Huntley four samples were taken, viz: 341, 342, 343 and 344. Now, compare these four samples with samples 336 and 337, taken above the city of Billings, and the chemical evidence of pollution from the sewage of Billings is apparent; not only is it apparent from a chemical standpoint, but it is far more apparent from a bacteriological standpoint.

Sample 345 is taken from the Huntley canal about two miles below the point on the Yellowstone river, shows decided evidence of pollution, both from a chemical and bacteriological standpoint. And here again, it must be remembered that this canal is the chief, if not the sole source of water for domestic puorposes for the people residing on the Huntley Irrigation project.

The standard of purity of waters for domestic purposes adopted in Eastern states, is certainly lower than the standard that should be adopted in Montana, our state having a much purer source of supply than have a majority of the Eastern states. However, we find that both from a bacteriological and a chemical standpoint the waters of the Yellowstone River between Billings and Huntley would not come up to the standard adopted for waters for domestic purposes in Eastern states.

Assuming that pollution of the rivers of this state is to be

permitted, then the conditions now existing between Billings and Huntley will shortly become the condition of the Yellowstone River throughout its course. Gardiner now has a small sewer, and if permitted she would increase the size of the sewer now opening into the Yellowstone river.

Corwin Springs hotel also has a sewer that opens into the Yellowstone river, and as is a well known fact the sewage from these health resorts is very apt to contain disease germs, the patrons of these resorts being either ill or convalescent from disease.

Livingston, with her small sewer at present, if permitted, would immediately increase to a very large extent the quantity of sewage entering the river.

At Springdale, the sewage from Hunter's Hot Springs now forms a source of pollution. In a short time Big Timber will be an applicant for permission to pollute the Yellowstone River with her sewage.

Gray Cliff, now merely a few stores, bids fair to become a town that will shortly install a sewer system.

Columbus is at present contemplating building a sewer.

Park City will be in the field in a short time. Laurel is now building her sewer system, and so the condition would extend from one end to the other of this magnificent source of water supply and completely destroy it for domestic purposes.

But continuing our study of this water from Huntley to Glendive we note comparatively little evidence of recent pollution as shown by chemical analysis, but referring to the bacteriological analysis we note that the river at Forsyth near the intake of the city water works, shows 98 B. coli per cc. That the Big Horn river carries a large number of B. coli, in fact that the only point below Billings at which we find the river free from colon bacilli is in a sample taken from the middle of the river near the intake of the Glendive City Water Works, and it is probable that repeated examinations at this point would show the presence of B. coli, as samples taken at points below Glendive show the baccilli to be present.

The appended tabulations would seem to indicate that from a chemical standpoint the Yellowstone river is comparatively pure from Huntley to Glendive, the bacteriological examination shows that it is not pure, but shows marked evidence of contamination. The question then naturally arises "what has be-

come of the chemical evidence of pollution shown above Huntley?" To those acquainted with the Yellowstone river, it is a well known fact that during the summer months there is a great deal of green vegetable matter along the banks of the river bed, the latter appearing in the form of green moss or algea attached to the stones in the river bed. This green vegetable matter feeds on nitrites and through their influence the chemical evidence of contamination is extracted during the summer months.

Had this examination been made during the winter months when the green vegetable matter is less abundant, it is highly probable that the chemical evidence of contamination would appear at points far below Huntley.

While this survey does not show the waters of the Yellowstone River below Huntley to be impaired to such an extent that they would not be classed according to Eastern standards, as safe waters for domestic purposes, they do show that this river carries strong evidence of sewage pollution throughout its entire course, and furnish certainly sufficient indications for repeated examinations throughout a year at least, and if these findings continue during such a period of investigation, then this water ought to be classed as water not safe for domestic purposes, or which would be a proper course, to locate the sources of pollution and secure their removal.

### Studies of Other Waters.

A large number of analyses were made of other waters in the State, but we cannot consider that a thorough sanitary survey was made of but one stream, viz: The Yellowstone river between Gardiner and Glendive. Studies in connection with water in irrigating ditches showed that these waters collected much polluting matter as they flowed. Studies of driven wells, as compared with open wells showed that the former was by far the safer source of water supply for domestic purposes, when primarily sunk in an uncontaminated soil. All of these studies of waters are incomplete. These studies should be carried on for several years in order to demonstrate the condition of the waters under various circumstances. We have not presented all of the waters studied, by any means, but have simply given you a few examples to illustrate the type of work we are undertaking in the matter of protection of the water supply of the State.

TABLE XI.

ANALYSES OF WATER SAMPLES TAKEN FROM YELLOWSTONE RIVER IN JULY, 1910.

| No. | Description of Sample | Date Samelpd.... | Free Ammonia.... | Albuminoid Ammonia..... | Nitrites..... | Nitrates..... | Oxygen Required..... | Chlorine..... | Sulphates..... | Solids in Solution..... | B. Coli per cc.... |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 300 | Gardiner River at Houth..... | July 12 | Trace | 0.04 | None | 0.2 | 1.4 | 18.8 | ..... | 278 | 0 |
| 301 | Yellowstone River just above mouth of Gardiner .... | July 12 | Trace | 0.065 | 0.016 | 0.2 | 2.0 | 6.6 | ..... | 101 | 0 |
| 303 | Yellowstone River Deever's Siding, 3 Miles below Gardiner ..... | July 12 | ..... | ..... | 0.015 | 0.2 | 2.45 | 7.1 | ..... | ..... | 250 |
| 302 | Creek at Deever's Siding, passes through Slaughter House Yards ..... | July 12 | 0.86 | 0.64 | 0.006 | 0.4 | 35.35 | 12.0 | ..... | ..... | 600 |
| 304 | Yellowstone River, Corwin Springs 8 Miles below Gardiner ..... | July 12 | 0.055 | 0.067 | 0.012 | 0.2 | 1.55 | 7.1 | ..... | 110 | 425 |
| 305 | Mulhern Creek, Stable, Barnyard, Etc on Creek... | July 12 | 0.06 | 0.028 | None | 0.2 | 1.85 | 1.5 | ..... | 178 | 0 |
| 306 | Miner Creek, Stable, Barnyard, Etc..... | July 12 | 0.02 | 0.025 | None | 0.2 | 2.9 | 1.0 | ..... | ..... | 0 |
| 307 | Rock Creek at Miner..... | July 12 | 0.02 | 0.04 | None | 0.2 | 1.75 | 1.5 | ..... | ..... | ..... |
| 316 | Yellowstone River, 3 miles above Livingston ..... | July 13 | 0.045 | 0.01 | 0.007 | 0.2 | 1.4 | 6.6 | ..... | ..... | 0 |
| 317 | Mouth of Canal, Livingston Power Co..... | July 13 | 0.04 | 0.02 | None | 0.1 | 1.35 | 6.6 | ..... | ..... | 0 |
| 362 | Yellowstone River, Livingston intake, City Water Works ..... | July 22 | 0.02 | 0.119 | 0.01 | 0.3 | 2.15 | 6.5 | 18.4 | 130 | .20 |
| 363 | Livingston Sewage,..... | July 22 | 30.0 | 20.0 | ..... | 0.3 | 52.1 | 54.4 | ..... | ..... | ..... |

TABLE XI—(Continued)

| No. | Description of Sample | Date Sampled | Free Ammonia | Albuminoid Ammonia | Nitrites | Nitrates | Oxygen Required | Chlorine | Sulphates | Solids in Solution | B. Coli per cc. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 364 | Yellowstone River, 7 block below Livingston sewer | July 22 | 0.02 | 0.129 | 0.01 | 0.3 | 1.75 | 7.1 | 18.9 | 108 | 270 |
| 315 | Yellowstone River, 200 feet below Livingston sewer | July 13 | Trace | 0.055 | None | 0.1 | 1.9 | 7.5 | ..... | ..... | 45 |
| 312 | Yellowstone River, Sauth Bank, 4 miles below Livingston | July 13 | 0.025 | 0.005 | None | 0.2 | 1.4 | 6.6 | ..... | ..... | 3 |
| 310 | Yellowstone River, South Bank, 7½ miles below Livingston | July 12 | 0.05 | 0.021 | None | 0.2 | 1.05 | 7.1 | ..... | 125 | 1 |
| 311 | Shields River at mouth | July 13 | 0.058 | 0.042 | 0.013 | 1.4 | 1.3 | 30.5 | ..... | 412 | ..... |
| 309 | Yellowstone River South Bank, 10 miles below Livingston | July 13 | 0.05 | 0.03 | None | 0.2 | 1.15 | 12.5 | ..... | ..... | 4 |
| 308 | Mission Creek at mouth | July 13 | 0.05 | 0.005 | 0.005 | 0.6 | 1.65 | 9.5 | ..... | ..... | ..... |
| 325 | Yellowstone River, Springdale, North Baak above Springdale Creek | July 14 | 0.037 | 0.098 | 0.001 | 0.1 | 1.6 | 7.07 | 16.62 | 115 | 39 |
| 324 | Creek at Springdale | July 14 | 0.112 | 0.312 | 0.28 | 0.6 | 5.9 | 20.0 | ..... | ..... | 0 |
| 318 | Yellowstone River, center of river, 1 mile above of Big Boulder | July 14 | 0.045 | 0.045 | None | 0.2 | 1.65 | 6.1 | 12.92 | 132 | 150 |
| 320 | Big Boulder River, 1 mile above mouth | July 14 | 0.016 | 0.074 | Trace | 0.1 | 1.75 | 1.1 | 14.56 | 102 | ..... |
| 319 | Yellowstone River, South Bank, 4 miles below mouth of Big Boulder River | July 14 | 0.076 | 0.059 | None | 0.1 | 1.75 | 6.5 | 13.33 | 119 | ..... |
| 329 | Yellowstone River at Bridge above Merrill | July 15 | 0.028 | 0.032 | None | 0.2 | 1.4 | 7.63 | 17.44 | 118 | ..... |

TABLE XI—(Continued)

| No. | Description of Sample | Date Sampled | Free Ammonia | Albuminoid Ammonia | Nitrites | Nitrates | Oxygen Required | Chlorine | Sulphates | Solids in Solution | B. Coli per cc. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 330 | Yellowstone River just below Merrill | July 15 | 0.02 | 0.059 | None | 0.2 | 1.42 | 7.63 | 16.83 | 114 | 270 |
| 328 | Stillwater River at mouth | July 15 | 0.03 | 0.05 | None | 0.3 | 1.4 | 1.0 | 7.38 | 94 | 425 |
| 326 | Yellowstone River, Columbus, North bank at bridge above town | July 15 | 0.06 | 0.19 | None | 0.1 | 1.85 | 6.5 | 17.44 | 110 | 1 |
| 327 | Yellowstone River, South bank directly opposite 326 | July 15 | 0.02 | 0.06 | None | 0.2 | 1.05 | 2.0 | 10.46 | 96 | ..... |
| 327a | Yellowstone River, 300 feet belaw 326, bacteriological sample only | July 15 | ..... | ..... | ..... | .... | ..... | ..... | ..... | ..... | 35 |
| 331 | Yellowstone River, North Bank, 1 mile below Columbus | July 15 | 0.05 | 0.048 | 0.002 | 0.2 | 2.05 | 7.63 | 14.98 | 108 | 0 |
| 332 | Yellowstone River, mouth of Big Ditch, 8 miles above Park City | July 15 | 0.058 | 0.04 | None | 0.2 | 1.4 | 7.13 | 16.42 | 120 | 0 |
| 334 | Yellowstone River, Laurel, South bank, N. P. Ry bridge | July 15 | None | 0.035 | None | 0.2 | 1.4 | 7.13 | 17.83 | 136 | 250 |
| 333 | Clark's Fork Creek, 4 miles above mouth | July 15 | None | 0.04 | 0.002 | 0.4 | 1.65 | 4.58 | 61.4 | 200 | 0 |
| 335 | Big Ditch 29th St., Billings | July 15 | 0.02 | 0.13 | Trace | 0.1 | 1.5 | 8.1 | 44.16 | 186 | 75 |
| 336 | Yellowstone River, Billings, at Bridge South of Town, South Bank | July 18 | 0.022 | 0.24 | Trace | 0.2 | 1.4 | 5.09 | 35.94 | 164 | 1,450 |
| 337 | Billings Intake, City Water Works | July 18 | 0.037 | 0.173 | Trace | 0.3 | 1.4 | 5.09 | 37.99 | 148 | 50 |
| 338 | Billings City Water from tap at depot | July 18 | 0.022 | 0.14 | 0.001 | 0.3 | 1.4 | 5.09 | 37.17 | 182 | ..... |
| 339 | Yellowstone River, Billings, 1 mile below City at R. R. Bridge North Bank above City sewer | July 18 | 0.285 | 0.215 | 0.013 | 0.3 | 6.5 | 5.09 | 37.58 | 168 | 500 |

TABLE XI—(Continued)

| No. | Description of Sample | Date Sample | Free Ammonia | Albuminoid Ammonia | Nitrites | Nitrates | Oxygen Required | Chlorine | Sulphates | Solids in Solution | B. Coli per cc. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 347 | Billings Sewage | July 18 | 3.0 | 1.85 | None | 1.0 | 24.0 | 53.6 | ..... | ..... | 194,000 |
| 340 | Billings Sewage Canal at mouth | July 18 | 0.75 | 1.10 | 0.88 | 9.6 | 5.75 | 41.7 | 141.5 | 620 | 57,000 |
| 341 | Yellowstone River, ¾ mile below mouth Billings sewer same side as sewer | July 18 | 0.127 | 0.08 | 0.02 | 1.4 | 2.5 | 8.6 | 121.4 | 314 | 17,000 |
| 342 | Yellowstone River 2¼ miles below outlet Billings sewer (Park's Dairy) | July 18 | 0.12 | 0.15 | 0.011 | 0.2 | 2.35 | 8.1 | 70.47 | 300 | 50 |
| 343 | Yellowstone River, 5 miles below Billings sewer | July 18 | 0.16 | 0.25 | 0.008 | 0.2 | 1.75 | 6.6 | 61.83 | 188 | 3,200 |
| 344 | Yellowstone River, 14 miles below Billings sewer, north bank, 2 miles above Huntley | July 18 | 0.175 | 0.125 | Trace | 0.2 | 1.75 | 6.1 | 51.14 | 182 | 6,600 |
| 345 | Huntley Project Canal, 2 miles from intake | July 18 | 0.16 | 0.04 | Trace | 0.2 | 1.75 | 6.1 | 41.28 | 140 | 600 |
| 352 | Yellowstone River, south bank ¾ mile above mouth Big Horn River | July 19 | 0.025 | 0.053 | Trace | Trace | 2.55 | 5.09 | ..... | 168 | 500 |
| 351 | Big Horn River at N. P. Ry Crossing | July 19 | 0.008 | 0.057 | Trace | None | 2.10 | 5.09 | 66.76 | 200 | 5,500 |
| 348 | Yellowstone River, Forsyth, near intake of City Water Works | July 19 | 0.016 | 0.104 | None | None | 1.9 | 5.09 | 54.94 | 200 | 98 |
| 350 | Yellowstone River, below mouth of Forsyth sewer | July 19 | 0.17 | 0.095 | Trace | None | 2.15 | 7.6 | 55.26 | 190 | 475 |
| 353 | Yellowstone River, near intake Ft. Keogh Pumping plant | July 19 | 0.017 | 0.079 | None | Trace | 1.9 | 5.09 | 54.49 | 192 | 200 |

TABLE XI—(Continued)

| No. | Description of Sample | Date Sampled | Free Ammonia | Albuminoid Ammonia | Nitrites | Nitrates | Oxygen Required | Chlorine | Sulphates | Solids in Solution | B. Coli per cc. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 354 | Tongue River, intake Miles City pumping plant | July 19 | 0.127 | 0.078 | 0.002 | 0.3 | 3.5 | 5.09 | 56.9 | ..... | 11,800 |
| 355 | Miles City sewage | July 19 | 10.0 | 3.65 | None | 0.4 | 46.2 | ..... | ..... | ..... | 350,000 |
| 356 | Yellowstone River, ½ mile below Miles City sewer | July 19 | 0.017 | 0.123 | None | 0.2 | 1.6 | 6.5 | 299.2 | 818 | 170 |
| 358 | Yellowstone River, Glendive, center of river, near intake City Water Works | July 20 | 0.008 | 0.057 | 0.002 | None | 2.10 | 5.09 | ..... | 216 | 0 |
| 359 | Glendive Sewage | July 20 | 0.425 | 1.24 | 0.002 | Trace | 26.45 | 27.99 | ..... | ..... | 21,700 |
| 360 | Yellowstone River, south bank, 5 miles below Glendive | July 20 | 0.037 | 0.042 | Trace | None | 4.05 | 5.6 | 64.4 | ..... | 2,330 |

TABLE XII
ADDITIONAL ANALYSES OF WATERS FROM YELLOWSTONE RIVER.

| No. | Description of Sample | Date Sampled | Free Ammonia | Albuminoid Ammonia | Nitrites | Nitrates | Oxygen Required | Chlorine | Sulphates | Solids in Solution |
|---|---|---|---|---|---|---|---|---|---|---|
| 155 | Yellowstone River, Gardiner, below mouth of Gardiner River | Mar. 12 | 0.10 | 0.15 | 0.02 | 0.4 | 1.15 | 24.5 | 69.4 | 292 |
| 156 | Gardiner River at mouth | Mar. 12 | 0.025 | 0.035 | 0.002 | Trace | 0.60 | 38.5 | 124.1 | 507 |
| 163 | Yellowstone River, Livingston near intake city water works | Mar. 12 | 0.05 | 0.09 | 0.01 | 0.8 | 0.90 | 12.0 | ..... | ..... |
| 164 | Livingston City water from tap in Park Hotel | Mar. 12 | 0.01 | 0.065 | 0.002 | 1.2 | 0.70 | 11.0 | ..... | ..... |
| 93 | Yellowstone River, ½ mile above bridge on Red Lodge branch of N. P. R. R. opposite sheep camp | Dec. 30 1909 | 0.05 | 0.02 | Trace | 1.0 | 0.65 | 10.0 | ..... | ..... |
| 105 | Yellowstone River, at Laurel, 300 feet above bridge, middle of river | Jan. 22 | 0.005 | 0.04 | 0.01 | 0.8 | 0.9 | 9.0 | 40.4 | 157 |
| 106 | Yellowstone River, Laurel, 600 feet below bridge, middle of river | Jan. 22 | 0.075 | 0.03 | 0.01 | 0.8 | 0.5 | 9.0 | 42.5 | 170 |
| 154 | Yellowstone River, Laurel, above bridge and opposite sheep camp | Mar. 12 | 0.06 | 0.19 | 0.01 | 0.8 | 2.8 | 8.0 | 34.1 | 316 |
| 170 | Yellowstone River, Laurel, County bridge, 200 feet from south bank | Mar. 26 | 0.025 | 0.075 | 0.008 | 0.3 | 2.2 | 7.0 | 33.3 | 225 |
| 171 | Yellowstone River, Laurel, 200 feet above Ry bridge south bank | Mar. 26 | 0.03 | 0.095 | 0.007 | 0.2 | 2.1 | 6.7 | 32.1 | 204 |

TABLE XII—(Continued)

| No. | Description of Sample. | Date Sampled..... | Free Ammonia.... | Albuminoid Ammonia..... | Nitrites..... | Nitrates..... | Oxygen Required.. | Chlorine..... | Sulphates..... | Solids in Solution.. |
|---|---|---|---|---|---|---|---|---|---|---|
| 172 | Yellowstone River, Laurel, County bridge, 40 feet from bank | Mar. 26 | 0.025 | 0.075 | 0.009 | 0.4 | 2.0 | 6.7 | 42.7 | 214 |
| 173 | Yellowstone River, Laurel, 2 miles below county bridge south bank | Mar. 26 | 0.01 | 0.055 | 0.006 | 0.3 | 2.6 | 6.7 | 34.7 | 201 |
| 224 | Yellowstone River, Laurel, from wagon bridge, 40 feet from south bank | May 14 | 0.05 | 0.13 | 0.012 | Trace | 3.05 | 1.5 | 12.1 | 182 |
| 92 | Slough below sheep camp, Laurel, just before it flows into river | Dec. 30 1909 | 0.23 | 0.20 | 0.045 | 3.6 | 2.8 | 28.5 | 152.8 | 762 |
| 104 | Do Do Do | Jan. 22 | 0.11 | 0.22 | 0.06 | 3.4 | 1.7 | 19.5 | 418.6 | 870 |
| 175 | Slough above the Taylor and Nutting sheep camp | Mar. 26 | 0.05 | 0.30 | 0.06 | 6.0 | 4.6 | 42.3 | 1294.2 | 2468 |
| 176 | Slough at mouth below Taylor and Nutting sheep camp | Mar. 26 | 0.025 | 0.375 | 0.066 | 6.0 | 4.2 | 45.0 | 1305.3 | 2485 |
| 228 | Slough, Laurel, above bridge on Red Lodge branch N. P. R. R. | May 14 | 0.115 | 0.135 | 0.028 | 1.0 | 3.55 | 7.0 | 184.9 | 397 |
| 107 | Yellowstone River, Laurel, 600 ft. below bridge, 6 feet from shore on side receiving water | Jan. 22 | 0.07 | 0.045 | 0.02 | 1.8 | 0.9 | 12.0 | 159.8 | 377 |
| 357 | Yellowstone R., Laurel, near N. P. yards intake below sheep camp and on same side of river | Mar. 12 | 0.06 | 0.24 | 0.012 | 1.0 | 3.45 | 8.5 | 54.3 | 396 |

TABLE XII—(Continued)

| No. | Description of Sample. | Date Sampled..... | Free Ammonia..... | Albuminoid Ammonia..... | Nitrites..... | Nitrates..... | Oxygen Required.. | Chlorine..... | Sulphates..... | Solids in Solution.. |
|---|---|---|---|---|---|---|---|---|---|---|
| 230 | Yellowstone River, 20 feet from north bank, near Laurel intake ..... | May 16 | 0.05 | 0.115 | 0.008 | Trace | not detr | 3.0 | 32.5 | 178 |
| 229 | Yellowstone River, Laurel, sample from middle of river | May 16 | 0.025 | 0.10 | 0.006 | Trace | not detr | 2.0 | 14.6 | 148 |
| 108 | From water tank used by City of Laurel ..... | Jan. 22 | 0.08 | 0.05 | 0.01 | 1.00 | 0.9 | 10.0 | 75.0 | 254 |
| 174 | Do Do Do ..... | Mar. 26 | 0.025 | 0.10 | 0.010 | 1.6 | 2.6 | 15.3 | 291.4 | 631 |
| 227 | Do Do Do ..... | May 14 | 0.075 | 0.225 | 0.010 | Trace | 3.55 | 2.0 | 16.0 | not detr |
| 153 | Do Do Do ..... | Mar. 12 | 0.05 | 0.20 | 0.006 | 1.3 | 3.00 | 8.5 | 50.5 | 247 |
| 94 | Yellowstone River Intake, N. P. Yards pumping station, Laurel ..... | Dec. 30 | 0.06 | 0.06 | 0.015 | 1.6 | .85 | 13.0 | 170.0 | 424 |
| 231 | Sample at pumps N. P. Pumping Station, shows break in pipes ..... | May 16 | Trace | 0.125 | 0.006 | 1.2 | not detr | 13.5 | 381.6 | 745 |
| 95 | N. P. Water Tank, Laurel yards from tap in round house ..... | Dec. 30 | 0.06 | 0.03 | 0.025 | 1.8 | 0.85 | 13.5 | 190. | 471 |
| 119 | Yellowstone River, at intake of Billings City Water Works ..... | Feb. 9 | 0.045 | 0.055 | 0.004 | 1.3 | 1.0 | 10.0 | not detr | 317 |

TABLE XII—(Continued)

| No. | Description of Sample. | Date Sampled | Free Ammonia | Albuminoid Ammonia | Nitrites | Nitrates | Oxygen Required | Chlorine | Sulphates | Solids in Solution |
|---|---|---|---|---|---|---|---|---|---|---|
| 140 | Do Do Do | Mar. 1 | 0.03 | 0.07 | 0.01 | 1.6 | 1.2 | 9.0 | not detr | 272 |
| 159 | Do Do Do | Mar. 14 | 0.06 | 0.19 | 0.008 | 1.2 | 2.35 | 8.0 | not detr | not detr |
| 120 | Settling Reservoir Billings City Water Works | Feb. 9 | 0.055 | 0.04 | 0.005 | 1.3 | 0.9 | 9.5 | not detr | 304 |
| 141 | Do Do Do | Mar. 1 | 0.05 | 0.05 | 0.01 | 1.6 | 0.9 | 9.5 | ..... | 265 |
| 160 | Do Do Do | Mar. 14 | 0.10 | 0.10 | 0.008 | 1.2 | 1.9 | 7.5 | ..... | ..... |
| 96 | Billings City water from tap of Grand Hotel | Dec. 30 1909 | 0.06 | 0.03 | Trace | 1.0 | 0.83 | 9.5 | 97.2 | 306 |
| 110 | Do Do Do | Jan. 22 | 0.06 | 0.06 | 0.008 | 1.1 | 0.50 | 8.5 | ..... | 282 |
| 122 | Do Do Do | Feb. 9 | 0.02 | 0.03 | 0.006 | 1.5 | 0.65 | 9.3 | ..... | 312 |
| 166 | Yellowstone River at Forsyth | Mar. 15 | 0.125 | 0.325 | 0.01 | 1.2 | ..... | 8.0 | ..... | ..... |
| 235 | Do Do Do | May 20 | 0.06 | 0.24 | 0.006 | 0.2 | 6.45 | 3.0 | ..... | 1219 |
| .... | Average for 12 Montana Cities | ..... | 0.02 | 0.035 | None | 0.45 | None | ..... | ..... | ..... |

# Report of Births and Deaths.

The registration of births and deaths in Montana has proceeded very satisfactorily in most localities. In some of the localities we have met difficulties in securing prompt returns, but the returns have finally been secured.

A study of the attached tabulated statement shows that during the year ending June 30, 1909, there were a total of 3,991 deaths (excluding still-births), whereas during the year ending June 30th, 1910, there were 3,635 (excluding still-births), or a decrease of 356. This decrease in deaths with the undoubted increase in population seems unnatural at first, but when we consider that during the year ending June 30th, 1909, there were a large number of men in Montana employed in a hazardous occupation, namely that of building railroads, the decrease in deaths is accounted for.

A study of the tabulated statements shows that a large per cent of the decrease in deaths was due to the decrease in those from scarlet fever, typhoid fever, pneumonia and violence. We note that during the year 1908-09 there were a large number of cases of typhoid fever reported from the camps connected with railroad construction in and about Missoula County, and we find a decrease of 25 in the deaths from typhoid fever in Missoula County alone. We also find a decrease of 96 in the deaths from violence and of this decrease, 30 are accounted for in Missoula County, thus showing the influence of men employed in hazardous occupations on the death rate.

From the 1st of January, to the 1st of June 1910 it was remarked by physicians throughout the State that there was an extremely small amount of serious sickness, and these remarks are supported by the low death rate during this period, and especially in the death rate from pneumonia, which shows a decrease in the two years studied of 241 deaths.

From scarlet fever there were 52 deaths in Silver Bow County during the year ending June 30th, 1909, and only 18 during the year ending June 30th, 1910, or a decrease of 34. In Cascade County there were 21 deaths from scarlet fever dur-

ing the year ending June 30th, 1909 and only 4 during the year ending June 30th, 1910, or a decrease of 17. These two counties show the largest number of deaths from this disease in the first year mentioned and also show the greatest decrease in the succeeding year.

An interesting feature in connection with the study of deaths in the State is the relative number of deaths in Silver Bow County in proportion to the population. Giving Silver Bow a population of 57,000, we find that she represents 16.28 per cent of the population of the State, whereas in the year ending June 30th, 1909 the deaths occuring in Silver Bow County were 23.6 per cent of the total deaths in the State, and during the year ending June 30th, 1910, the deaths in Silver Bow County represent 24.1 per cent of the total deaths in the state.

As a matter of interest, and especial interest to those contemplating taking up their residence in this State, is the low death rate apparent in the State. Taking our population at 350,000 we find that during the year ending June 30th, 1909, the death rate was 11.40 per thousand population, and during the year ending June 30th, 1910, it was 10.38 per thousand population. This is a remarkably low death rate and the study of the tabulated statements shows that this low death rate is to a large extent at least among preventable diseases, with the exception of tuberculosis, which disease we have no power to work against, it not being mentioned as a communicable disease in our law.

Further results of the study of these tabulated statements relative to preventable diseases are presented under the various diseases studied.

The study of the tabulated statements relative to births reported shows that Montana is not backward in her natural increase of population. During the year ending June 30th, 1909, there was an increase of 1,780 births over the total deaths (this total including still-births), and during the year ending June 30, 1910, there was an increase of 2,383 births over deaths.

The records in this office are now practically complete, both as regards births and deaths, and the importance of these records is demonstrated by the frequent calls for certified copies of both births and death certificates. In addition to this the greatest importance of these records is the information they have furnished for the study of sanitary and unsanitary conditions in our State.

## TABLE XIII.

DEATHS FROM ALL CAUSES REPORTED TO THE STATE BOARD OF
TO CAUSE OF DEA

| Sex. | M | F | M | F | M | F | M | F | M | F | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Age. | Under 1 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 |
| I. GENERAL DISEASES. | | | | | | | | | | | |
| Typhoid Fever | ... | ... | ... | 1 | 1 | 2 | ... | 3 | 1 | .... | 5 |
| Smallpax | ... | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... |
| Measles | 1 | 1 | ... | 1 | ... | 2 | 1 | 1 | 1 | 2 | 2 |
| Scarlet Fever | 3 | 2 | 7 | 9 | 7 | 11 | 8 | 3 | 8 | 5 | 17 |
| Whooping Cough | 4 | 7 | 1 | 2 | ... | ... | 1 | ... | ... | ... | .... |
| Diphtheria | 8 | 2 | 5 | 5 | 7 | 4 | 2 | 2 | 7 | 7 | 16 |
| Grippe (Influenza) | 1 | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Spotted (Tick) Fever | ... | ... | ... | ... | 1 | ... | ... | ... | .... | .... | .... |
| Erysipelas | 5 | 5 | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Purulent Infection and Septicaemia | 1 | 1 | ... | ... | 1 | 1 | 1 | ... | .... | .... | 1 |
| Tubercle of the Lungs | 4 | 2 | ... | 1 | 1 | ... | ... | 2 | .... | .... | 3 |
| Tubercle of Meninges | 1 | 1 | ... | 1 | 1 | ... | ... | ... | .... | .... | .... |
| Tubercle of Peritoneum | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Other Tuberculoses | 1 | ... | ... | ... | ... | ... | 1 | ... | .... | .... | 1 |
| Syphilis | 3 | ... | ... | 1 | ... | ... | ... | ... | .... | .... | .... |
| Cancer of Stomach and Liver | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Cancer of Peritoneum and Intestines | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Cancer of Female Genital Organs | .. | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Cancer of Breast | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Cancer of Skin | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | 1 |
| Cancer of Organs not specified | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Rheumatism, Acute Articular | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Rheumatism, Chronic and Gout | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Diabetes | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | 1 |
| Anaemia and Chlorosis | ... | ... | ... | ... | 1 | ... | ... | 1 | .... | .... | .... |
| Saturnism (Lead Poisoning) | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Other Chronic Poisonings | .. | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Alcoholism, Acute and Chronic | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Goitre | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| II. DISEASES OF THE NERVOUS SYSTEM AND ORGANS OF SPECIAL SENSE. | | | | | | | | | | | |
| Encephalitis | ... | ... | ... | 2 | ... | ... | ... | ... | .... | .... | .... |
| Meningitis Simpe | 1 | 1 | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Meningitis Cerebro Spinal | 8 | 8 | 1 | 3 | 2 | 1 | 1 | 2 | .... | 2 | 3 |
| Cerebral Congestion and Hemorrhage | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Cerebral Softening | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Paralysis, General | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Other forms of Mental Alienation | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Epilepsy | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | 2 |
| Convulsions of Children | 18 | 6 | 2 | 1 | ... | ... | ... | ... | .... | .... | .... |
| Chorea | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Tetanus | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | 2 |
| Other diseases of Nervous System | ... | ... | ... | 1 | ... | ... | ... | ... | .... | .... | 1 |
| Diseases of Ear | 1 | ... | ... | ... | 1 | ... | ... | ... | .... | .... | 1 |

## TABLE XIII.

HEALTH FOR THE YEAR ENDING JUNE 30, 1909, ARRANGED ACCORDING TH, AGE AND SEX.

| F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 10 | 15 | 15 | 20 | 20 | 30 | 30 | 40 | 40 | 50 | 50 | 60 | 60 | 70 | 70 | 80 | 80 | Over 80 | Total | | Grand Total. |
| 1 | 4 | 2 | 7 | 2 | 42 | 8 | 26 | 4 | 8 | 2 | 1 | ... | 1 | ... | 1 | 1 | ... | ... | 97 | 26 | 123 |
| ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 2 | 1 | 3 |
| 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 5 | 8 | 13 |
| 26 | 9 | 8 | 5 | 3 | 6 | 1 | 1 | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 71 | 71 | 142 |
| ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 6 | 10 | 16 |
| 19 | 9 | 5 | 6 | 1 | 7 | ... | 2 | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 71 | 45 | 116 |
| ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | 2 | 3 | 1 | 1 | 2 | 3 | 7 | 8 | 15 |
| 1 | ... | ... | ... | ... | 3 | ... | 1 | 1 | 3 | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | 9 | 3 | 12 |
| ... | ... | ... | ... | 1 | ... | ... | 3 | 1 | 1 | ... | 3 | ... | 2 | ... | ... | ... | ... | ... | 14 | 7 | 21 |
| ... | ... | ... | ... | ... | 4 | 1 | 3 | 1 | 3 | 1 | 4 | 1 | 1 | 1 | ... | ... | ... | ... | 19 | 7 | 26 |
| 1 | ... | 1 | 6 | 5 | 39 | 21 | 42 | 23 | 69 | 11 | 38 | 2 | 14 | 1 | 4 | 2 | ... | 1 | 220 | 74 | 294 |
| ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 | 2 | 5 |
| ... | ... | ... | ... | ... | 1 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | 3 |
| ... | 1 | 1 | 1 | ... | 5 | 1 | 3 | ... | ... | ... | 2 | ... | 1 | ... | ... | ... | ... | ... | 16 | 2 | 18 |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | 2 | ... | 1 | ... | ... | ... | ... | ... | 7 | 2 | 9 |
| ... | ... | ... | ... | ... | 2 | ... | 6 | 3 | 7 | 6 | 14 | 5 | 11 | 6 | 8 | 3 | 1 | ... | 49 | 23 | 72 |
| ... | ... | ... | ... | ... | ... | ... | 2 | 1 | 3 | 1 | 1 | 1 | 1 | 2 | ... | 3 | 1 | ... | 8 | 8 | 16 |
| ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | 9 | ... | 4 | ... | 4 | ... | 3 | ... | 2 | .... | 24 | 24 |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | 4 | 4 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 5 | 1 | ... | ... | 1 | ... | 1 | ... | 8 | 2 | 10 |
| ... | ... | ... | ... | ... | 1 | ... | 3 | 1 | 2 | ... | 5 | 1 | 3 | ... | 6 | ... | ... | ... | 20 | 2 | 22 |
| 2 | ... | ... | ... | ... | 2 | 1 | ... | 1 | ... | 1 | ... | ... | 1 | ... | ... | 1 | ... | ... | 3 | 6 | 9 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 1 | 1 | 1 | ... | 4 | 2 | 1 | ... | 7 | 5 | 12 |
| 1 | 2 | ... | 3 | ... | 2 | ... | ... | ... | 1 | 1 | 3 | ... | 3 | 2 | ... | ... | ... | ... | 15 | 4 | 19 |
| ... | ... | ... | ... | 2 | 2 | ... | ... | 2 | 1 | 3 | 2 | 1 | 1 | 1 | ... | ... | ... | ... | 7 | 10 | 17 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 3 | .... | 3 |
| ... | ... | ... | ... | ... | 1 | ... | 2 | ... | ... | 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | 4 | 2 | 6 |
| ... | ... | ... | ... | ... | 7 | 2 | 18 | 2 | 26 | 2 | 34 | ... | 4 | 1 | 4 | ... | ... | ... | 100 | 7 | 107 |
| ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | .... | 3 | 3 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .... | 2 | 2 |
| ... | ... | ... | 1 | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 | 2 | 5 |
| 4 | 2 | 1 | 1 | ... | 6 | 2 | 2 | 1 | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 28 | 24 | 52 |
| ... | ... | ... | ... | 1 | 2 | ... | 4 | 2 | 10 | 3 | 24 | 8 | 20 | 5 | 22 | 8 | 4 | 3 | 86 | 30 | 116 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | 2 | ... | ... | ... | 3 | 1 | 4 |
| ... | ... | ... | 1 | ... | ... | ... | 5 | 3 | 3 | ... | 5 | ... | 2 | 1 | 2 | 6 | ... | 2 | 18 | 12 | 30 |
| ... | ... | ... | 1 | ... | ... | 1 | 8 | 2 | 5 | 3 | 10 | 1 | 2 | 1 | 6 | 1 | ... | 1 | 32 | 10 | 42 |
| ... | 1 | ... | 2 | 1 | ... | 2 | 1 | ... | 1 | ... | 2 | 1 | 2 | ... | ... | ... | ... | ... | 11 | 4 | 15 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 20 | 7 | 27 |
| 1 | ... | ... | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | 3 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 3 | .... | 3 |
| 1 | 1 | ... | ... | ... | ... | 3 | 1 | ... | 4 | 1 | 1 | ... | 2 | ... | 1 | ... | 1 | ... | 12 | 6 | 18 |
| ... | 1 | ... | 1 | ... | 1 | ... | ... | 1 | 1 | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | 9 | 1 | 10 |

TABLE XIII—(Continued)

| Sex. | M | F | M | F | M | F | M | F | M | F | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Age. | Under 1 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 |
| III. | | | | | | | | | | | |
| DISEASES OF CIRCULATORY SYSTEM | | | | | | | | | | | |
| Pericarditis | | | | | | | | | | | |
| Endocarditis | 2 | | 2 | 1 | | | | | | 1 | 3 |
| Other Diseases of Heart | | | | | | | | | | | |
| Diseases of Arteries (Atheroma, Aneurism) | | | | | | | | | | | |
| Angina Pectoris | | | | | | | | | | | |
| Embolism and Thrombosis | | | | | | | | | | | |
| Diseases of Lymphatic System | | | | | | | | | | | |
| IV. | | | | | | | | | | | |
| DISEASES OF RESPIRATORY SYSTEM. | | | | | | | | | | | |
| Diseases of Larynx | | | 1 | 1 | 1 | 1 | | | | 1 | |
| Bronchitis, Acute | 6 | 9 | 2 | 1 | 1 | 3 | | 2 | | | 2 |
| Bronchitis, Chronic | | | | | | | | | | | |
| Pneumonia | 70 | 52 | 12 | 24 | 6 | 1 | 2 | 5 | | 1 | 5 |
| Pleurisy | | | | | | | | | | | |
| Asthma | | | | | | | | | | | |
| Empyema | 1 | | | | | | | | | | 1 |
| V. | | | | | | | | | | | |
| DISEASES OF DIGESTIVE SYSTEM. | | | | | | | | | | | |
| Ulcer of Stomach | | | | | | | | | | | |
| Other Diseases of Stomach | | | | | | | | | | | |
| Diarrhoea and Enteritis under 2 | 64 | 63 | 13 | 16 | | | | | | | |
| Diarrhoea and Enteritis Chronic | | | | | | | | | | | |
| Diarrhoea and Enteritis over 2 | | | | | 11 | 4 | 4 | 4 | 2 | | 3 |
| Hernia and Intestinal Obstruction | 4 | 1 | 2 | | 1 | | | | | | |
| Cirrhosis of the Liver | | | | | | | | | | | |
| Biliary Calculi | | | | | | | | | | | |
| Other Diseases of the Liver | | | | | | | | | | | |
| Appendicitis and Abscess of Iliac Fossa | | | | | | | | | | | 2 |
| Peritonitis, Simple | | 1 | | | | 1 | | | | | 2 |
| VI. | | | | | | | | | | | |
| DISEASES OF GENITO URINARY SYSTEM AND ADENXA. | | | | | | | | | | | |
| Nephritis, acute | | 1 | 1 | 1 | | | | | 2 | | |
| Brights Disease | | | | | | | | | | | 2 |
| Diseases of Bladder | | | | | | | | | | | |
| Diseases of the Prostate | | | | | | | | | | | |
| VII. | | | | | | | | | | | |
| THE PUERPERAL STATE. | | | | | | | | | | | |
| Accidents of Pregnancy | | | | | | | | | | | |
| Accidents of Labor | | | | | | | | | | | |
| Septicaemia, Puerperal | | | | | | | | | | | |
| Albuminuria and Eclampsia | | | | | | | | | | | |
| VIII. | | | | | | | | | | | |
| DISEASES OF SKIN AND CELULAR TISSUE. | | | | | | | | | | | |
| Gangrene | | | | | | | | | | | |
| Carbuncle | | | | | | | | | | | |

TABLE XIII—(Continued)

| F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | Over 80 M | Over 80 F | Total M | Total F | Grand Total. M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 10 | 15 | 15 | 20 | 25 | 30 | 39 | 40 | 40 | 50 | 50 | 60 | 60 | 70 | 70 | 80 | 80 | 80 | | | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 4 | 5 | 10 | 3 | 6 | 12 | 7 | 18 | 11 | 21 | 12 | 25 | 7 | 31 | 6 | 18 | 12 | 5 | 1 | 145 | 78 | 223 | | |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | 2 | 3 | 3 | 1 | 1 | ... | 2 | 4 | ... | ... | 9 | 8 | 17 | | |
| ... | ... | ... | ... | ... | 1 | ... | 1 | ... | 2 | ... | 2 | ... | 3 | ... | 5 | 1 | 1 | ... | 15 | 1 | 16 | | |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | 3 | ... | ... | 5 | ... | ... | ... | 7 | 4 | 11 | | |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 2 | 2 | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | | |
| ... | ... | ... | 1 | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4 | 4 | 8 | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 12 | 16 | 28 | | |
| ... | ... | ... | ... | ... | ... | ... | 2 | 1 | ... | 1 | 4 | ... | 1 | 2 | 4 | ... | 2 | 1 | 13 | 5 | 18 | | |
| 5 | 3 | 1 | 7 | 2 | 29 | 9 | 27 | 9 | 34 | 5 | 35 | 5 | 23 | 9 | 23 | 13 | 10 | 7 | 283 | 148 | 434 | | |
| ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | 4 | ... | 4 | | |
| ... | ... | ... | ... | ... | 1 | ... | 1 | 1 | 1 | ... | 3 | ... | 5 | ... | 2 | 1 | 2 | ... | 15 | 2 | 17 | | |
| ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 | ... | 3 | | |
| ... | ... | ... | ... | ... | 1 | 2 | 2 | ... | 1 | ... | 2 | ... | ... | ... | 1 | ... | ... | ... | 7 | 2 | 9 | | |
| ... | ... | ... | ... | ... | ... | 2 | ... | ... | 1 | ... | ... | 1 | 1 | 1 | ... | ... | 1 | ... | 3 | 4 | 7 | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 77 | 79 | 156 | | |
| ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | 1 | 1 | 1 | 2 | ... | 4 | ... | ... | 1 | 7 | 5 | 12 | | |
| ... | 1 | 1 | ... | 1 | ... | 1 | 1 | 2 | 1 | 1 | ... | ... | 2 | ... | 1 | ... | ... | ... | 26 | 14 | 40 | | |
| 1 | ... | ... | 3 | 1 | 4 | 1 | 4 | 2 | 5 | 1 | 5 | 1 | 3 | 1 | 3 | 2 | ... | ... | 34 | 11 | 45 | | |
| ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 4 | ... | 4 | 2 | 4 | ... | 3 | ... | 1 | ... | 17 | 3 | 20 | | |
| ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | 1 | 1 | ... | ... | 2 | 3 | 5 | | |
| ... | ... | ... | ... | ... | 1 | 1 | ... | 1 | 1 | 1 | ... | ... | 2 | 1 | 1 | ... | ... | ... | 5 | 4 | 9 | | |
| ... | 4 | 4 | 1 | 1 | 12 | 3 | 6 | 2 | 2 | 2 | 2 | ... | ... | 2 | ... | ... | ... | ... | 29 | 14 | 43 | | |
| 2 | 1 | 1 | 1 | 2 | 5 | 3 | 2 | ... | 3 | 3 | ... | 2 | ... | ... | ... | 1 | ... | ... | 14 | 16 | 30 | | |
| 2 | 1 | 1 | 1 | ... | 2 | 3 | ... | ... | ... | ... | 2 | ... | ... | ... | 1 | ... | ... | ... | 10 | 7 | 17 | | |
| 1 | ... | ... | 5 | ... | 7 | 7 | 8 | 6 | 15 | 4 | 23 | 9 | 25 | 9 | 18 | 5 | 6 | 5 | 109 | 46 | 155 | | |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | 1 | ... | 1 | ... | 1 | ... | ... | ... | 4 | 1 | 5 | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 | ... | 5 | ... | 8 | ... | 8 | | |
| ... | ... | ... | ... | ... | ... | 3 | ... | 4 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 8 | 8 | | |
| ... | ... | ... | ... | 3 | ... | 10 | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 15 | 15 | | |
| ... | ... | ... | ... | 4 | ... | 24 | ... | 14 | ... | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 45 | 45 | | |
| ... | ... | ... | ... | ... | ... | 4 | ... | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 7 | 7 | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 3 | ... | 2 | ... | 6 | ... | 6 | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | 1 | | |

TABLE XIII—(Continued)

| Sex. | M | F | M | F | M | F | M | F | M | F | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Age. | Under 1 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 |
| IX. | | | | | | | | | | | |
| EARLY INFANCY. | | | | | | | | | | | |
| Congenital Debility, Icterus and Schleroma | 150 | 128 | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| X. | | | | | | | | | | | |
| OLD AGE. SENILE DEBILITY. | | | | | | | | | | | |
| Senility | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| XI. | | | | | | | | | | | |
| AFFECTIONS PRODUCED BY EXTERNAL CAUSES. | | | | | | | | | | | |
| Suicide by Poisons | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Suicide by Hanging and Strangulation | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Suicide by Drowning | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Suicide by Firearms | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Suicide by Cutting Instruments | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Other Suicide | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Accidents with Firearms | ... | ... | ... | ... | 1 | ... | ... | ... | .... | .... | 2 |
| Railroad Accidents | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | 1 |
| Accidents with Horses and Vehicles | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | 2 |
| Mine Accidents | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Other Accidental Traumatisms | 1 | 1 | ... | ... | 1 | ... | ... | ... | .... | .... | 2 |
| Burns and Scalds | ... | ... | 2 | ... | 1 | ... | 1 | 2 | .... | .... | 1 |
| Isolation and Freezing | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Electrical (Other than Lightning) | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Lightning | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Accidental Drowning | ... | 1 | 1 | 1 | ... | ... | 2 | ... | .... | 1 | 1 |
| Accidental Poisoning | ... | ... | ... | 1 | 1 | 1 | ... | ... | .... | .... | .... |
| Homicide | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | 2 |
| Legal Executions | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Mill Accidents | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Auto Accidents | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Chloroform Accidents | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| XII. | | | | | | | | | | | |
| DEATHS FROM ILL-DEFINED CAUSES AND STILL BIRTHS. | | | | | | | | | | | |
| Unspecified and ill-defined | 3 | 1 | ... | ... | 1 | ... | ... | 2 | 1 | .... | 1 |
| Stillbirths | 142 | 107 | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Totals | 503 | 400 | 52 | 74 | 48 | 32 | 24 | 29 | 22 | 20 | 88 |

TABLE XIII—(Continued)

| F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | Over 80 | Total M | Total F | Grand Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 10 | 15 | 15 | 20 | 20 | 30 | 30 | 40 | 40 | 50 | 50 | 60 | 60 | 70 | 70 | 80 | 80 | 80 | | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | | 150 | 128 | 278 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 6 | 3 | 16 | 14 | | 22 | 17 | 39 |
| ... | ... | ... | 1 | 3 | 5 | 7 | 2 | 3 | 4 | 1 | 2 | ... | ... | 1 | ... | ... | ... | ... | | 14 | 15 | 29 |
| ... | ... | ... | ... | ... | 1 | ... | 1 | ... | 1 | ... | ... | ... | 2 | ... | ... | ... | ... | ... | | 5 | ... | 5 |
| ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | | 1 | ... | 1 |
| ... | ... | ... | ... | ... | 12 | ... | 10 | ... | 6 | ... | 5 | ... | 1 | ... | ... | ... | ... | ... | | 34 | ... | 34 |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | 4 | ... | 1 | ... | 1 | ... | 1 | ... | ... | ... | | 8 | ... | 8 |
| ... | ... | ... | ... | ... | 2 | ... | ... | ... | 1 | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | | 4 | 1 | 5 |
| ... | 4 | ... | 4 | 1 | 12 | 2 | 8 | ... | 2 | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | | 35 | 3 | 38 |
| ... | 1 | ... | 7 | 1 | 62 | ... | 52 | 1 | 33 | ... | 9 | ... | 3 | ... | 1 | ... | ... | ... | | 169 | 2 | 171 |
| ... | 2 | ... | 3 | ... | 9 | ... | 9 | ... | 6 | ... | 7 | ... | 5 | ... | 2 | ... | ... | ... | | 45 | ... | 45 |
| ... | ... | ... | 3 | ... | 26 | ... | 19 | ... | 16 | ... | 4 | ... | 1 | ... | ... | ... | ... | ... | | 69 | ... | 69 |
| 1 | 2 | ... | 2 | ... | 15 | ... | 19 | ... | 15 | ... | 11 | 1 | 3 | 2 | 2 | 1 | 2 | 2 | | 75 | 8 | 83 |
| 1 | ... | ... | ... | ... | 4 | ... | 2 | 1 | 3 | 1 | 3 | ... | ... | 1 | 1 | ... | ... | ... | | 18 | 6 | 24 |
| ... | 1 | ... | 1 | ... | 2 | ... | 3 | 1 | 2 | ... | 3 | ... | 1 | 1 | ... | ... | 1 | ... | | 14 | 2 | 16 |
| ... | ... | ... | ... | ... | 2 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | | 3 | ... | 3 |
| ... | 1 | ... | 1 | ... | 2 | ... | 2 | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | | 8 | ... | 8 |
| 3 | 4 | ... | 1 | ... | 16 | ... | 16 | ... | 11 | ... | 3 | ... | 2 | ... | ... | 1 | ... | ... | | 57 | 7 | 64 |
| ... | ... | 1 | ... | ... | 1 | 3 | 2 | 3 | ... | ... | 1 | 1 | ... | 1 | ... | ... | ... | ... | | 5 | 11 | 16 |
| ... | ... | ... | ... | 1 | 1 | ... | 13 | 1 | 14 | ... | 15 | 2 | 3 | ... | 2 | ... | 1 | 1 | | 51 | 5 | 56 |
| ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | | 2 | ... | 2 |
| ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | | 1 | ... | 1 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | | ... | ... | ... |
| 1 | 1 | ... | 1 | 1 | 9 | 4 | 6 | 2 | 10 | 4 | 12 | 2 | 18 | 1 | 16 | 7 | 1 | ... | | 80 | 25 | 105 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | | 142 | 107 | 249 |
| 79 | 61 | 38 | 82 | 44 | 398 | 146 | 380 | 129 | 376 | 99 | 354 | 67 | 234 | 69 | 193 | 86 | 68 | 46 | | 2883 | 1358 | 4241 |

TABLE XIV.

DEATHS FROM ALL CAUSES REPORTED TO THE STATE BOARD OF TO CAUSE OF DEATH,

| Sex. | M | F | M | F | M | F | M | F | M | F | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Age. | Under 1 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 |
| I. GENERAL DISEASES. | | | | | | | | | | | |
| Typhoid Fever | 1 | | | | | 2 | | | | | 3 |
| Smallpax | 1 | | | | | | | | | | |
| Measles | 1 | 1 | | 1 | 1 | | | 1 | | | 1 |
| Scarlet Fever | 1 | | 5 | 2 | 3 | 2 | 3 | 4 | 2 | 3 | 15 |
| Whooping Cough | 9 | 13 | 5 | 4 | | | 1 | | | 1 | 1 |
| Diphtheria | 1 | | 3 | 4 | 3 | 1 | 7 | 1 | 7 | 4 | 17 |
| Grippe (Influenzia) | | | | | | | | | | | 1 |
| Spotted (Tick) Fever | | | | | | | | | | | 1 |
| Erysipelas | 3 | 2 | | | | | | | | | |
| Purulent Infection and Septicaemia | 1 | 1 | | 1 | | 1 | | | | | 1 |
| Tubercle of the Lungs | 2 | | 2 | | | | 1 | | | | 1 |
| Tubercle of Meninges | | | | | 1 | | | | | | 1 |
| Tubercle of Peritoneum | | | | 1 | | | 1 | | | | 1 |
| Other Tuberculoses | 1 | | | | 1 | | | | | 1 | |
| Syphilis | | 1 | | | | | | | | | |
| Cancer of Stomach and Liver | | | | | | | | | | | |
| Cancer of Peritoneum and Intestines | | | | | | | | | | | |
| Cancer of Female Genital Organs | | | | | | | | | | | |
| Cancer of Breast | | | | | | | | | | | |
| Cancer of Skin | | | | | | | | | | | |
| Cancer of Organs not specified | | | | | | | | | | | |
| Rheumatism, Acute Articular | | | | | | | | | | | |
| Rheumatism, Chronic and Gout | | | | | | | | | | | |
| Diabetes | | | | | | | | | | | |
| Anaemia and Chlorosis | | | | | | | | | | | |
| Saturnism (Lead Poisoning) | | | | | | | | | | | |
| Other Chronic Poisonings | | | | | | | | | | | |
| Alcoholism, Acute and Chronic | | | | | | | | | | | |
| Goitre | | | | | | | | | | | |
| II. DISEASES OF THE NERVOUS SYSTEM AND ORGANS OF SPECIAL SENSE. | | | | | | | | | | | |
| Encephalitis | | | | | 1 | | | | | | |
| Meningitis Simpe | 3 | | 1 | 1 | | 1 | 1 | | | | 2 |
| Meningitis Cerebro Spinal | 9 | 4 | 2 | 1 | | 1 | 2 | 3 | | | 1 |
| Cerebral Congestion and Hemorrhage | | | | | | | | | | | |
| Cerebral Softening | | | | | | | | | | | |
| Paralysis, General | | | | | | | | | | | |
| Other forms of Mental Alienation | | | | | | | | | | | |
| Epilepsy | 1 | | | | | | | | | | 1 |
| Convulsions of Children | 6 | 4 | 2 | | | | | | | | |
| Chorea | | | | | | | | | | | |
| Tetanus | 1 | | | | | | | | | | |
| Other diseases of Nervous System | | 2 | 2 | | 1 | 2 | 1 | 1 | | | 1 |
| Diseases of Ear | 1 | | | | | | | | | | 1 |
| III. DISEASES OF CIRCULATORY SYSTEM | | | | | | | | | | | |
| Pericaditis | | | | | | | | | | | |
| Endocarditis | | | | 1 | | | 1 | | | | 8 |
| Other Diseases of Heart | | | | | | | | | | | |
| Diseases of Arteries (Atheroma, Aneurism) | | | | | | | | | | | |
| Angina Pectoris | | | | | | | | | | | |
| Embolism and Thrombosis | | | | | | | | | | | |
| Diseases of Lymphatic System | | | | | | | | | | | 1 |

## TABLE XIV.

HEALTH FOR THE YEAR ENDING JUNE 30, 1910, ARRANGED ACCORDING AGE AND SEX.

| F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 10 | 15 | 15 | 20 | 20 | 30 | 30 | 40 | 40 | 50 | 50 | 60 | 60 | 70 | 70 | 80 | Over 80 | Over 80 | Total | | Grand Total. |
| 1 | ... | 2 | 6 | 5 | 18 | 9 | 14 | 7 | 7 | 4 | 4 | 1 | ... | ... | ... | 1 | ... | ... | 63 | 32 | 95 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 |
| ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 4 | 5 | 9 |
| 12 | 1 | 2 | 2 | 3 | 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 34 | 29 | 63 |
| 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 16 | 20 | 36 |
| 14 | 3 | 6 | 3 | 2 | 4 | 1 | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 48 | 35 | 83 |
| ... | 1 | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | 5 | 1 | 6 |
| 1 | 1 | ... | 1 | ... | 2 | 1 | 2 | ... | 1 | ... | 2 | ... | ... | ... | ... | ... | ... | ... | 10 | 2 | 12 |
| ... | ... | ... | ... | ... | ... | 1 | 1 | 2 | 2 | ... | 3 | ... | 1 | 1 | 2 | ... | ... | ... | 12 | 6 | 18 |
| ... | ... | 1 | ... | 1 | 3 | 4 | 3 | ... | 5 | ... | 2 | ... | 2 | ... | 1 | ... | 1 | ... | 19 | 9 | 28 |
| 2 | 1 | 3 | 6 | 11 | 34 | 28 | 66 | 17 | 67 | 8 | 39 | 7 | 10 | 6 | 3 | 1 | ... | ... | 239 | 83 | 322 |
| ... | ... | ... | 1 | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 | 2 | 5 |
| 2 | ... | ... | 1 | ... | 1 | ... | ... | 1 | 1 | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | 6 | 5 | 11 |
| ... | ... | ... | ... | 1 | 3 | ... | ... | ... | 1 | 1 | ... | ... | 2 | ... | 1 | ... | ... | ... | 9 | 3 | 12 |
| ... | ... | 1 | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4 | 4 |
| ... | ... | ... | ... | ... | 1 | ... | ... | ... | 8 | 5 | 10 | 3 | 8 | 7 | 4 | 4 | ... | 2 | 31 | 21 | 52 |
| ... | ... | ... | ... | ... | ... | ... | ... | 2 | 2 | 1 | 4 | 3 | 3 | ... | 1 | 1 | ... | ... | 10 | 7 | 17 |
| ... | ... | ... | ... | ... | ... | 2 | ... | 5 | ... | 5 | ... | 6 | ... | 3 | ... | 2 | ... | ... | ... | 23 | 23 |
| ... | ... | ... | ... | ... | ... | 1 | ... | 2 | ... | 1 | ... | 2 | ... | 1 | ... | ... | ... | ... | ... | 7 | 7 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | 1 | ... | 2 | 1 | 2 | ... | 1 | ... | 8 | 1 | 9 |
| ... | 1 | 1 | ... | 1 | 1 | ... | 3 | 2 | 3 | 1 | 6 | 2 | 5 | 3 | 4 | ... | ... | 1 | 23 | 11 | 34 |
| ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 2 |
| ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 2 | ... | 1 | ... | 1 | ... | ... | 1 | 5 | 1 | 6 |
| 1 | 1 | ... | ... | ... | 2 | ... | 3 | 1 | 5 | 1 | 7 | 2 | 3 | 3 | ... | 2 | ... | 1 | 21 | 11 | 32 |
| ... | 1 | ... | ... | ... | ... | 3 | ... | 1 | ... | 3 | 1 | ... | ... | 2 | ... | 1 | ... | ... | 2 | 10 | 12 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | 1 | ... | 3 | 1 | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 7 | 1 | 8 |
| ... | ... | ... | ... | ... | 3 | ... | 16 | 1 | 18 | 1 | 20 | ... | 11 | ... | ... | ... | 1 | ... | 69 | 2 | 71 |
| ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | 3 |
| ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | 2 |
| ... | 1 | ... | 1 | ... | 3 | 1 | 3 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 16 | 3 | 19 |
| 3 | ... | ... | 3 | 1 | 1 | 1 | 1 | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 21 | 14 | 35 |
| ... | ... | ... | ... | ... | 5 | 1 | 5 | ... | 10 | 5 | 21 | 6 | 17 | 12 | 15 | 7 | 7 | 6 | 80 | 37 | 117 |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 | ... | ... | 2 | 1 | 3 | 1 | ... | ... | 7 | 3 | 10 |
| ... | ... | ... | ... | ... | 1 | ... | 3 | ... | 1 | 2 | 1 | 2 | 1 | 4 | 3 | 1 | 4 | 3 | 14 | 12 | 26 |
| ... | ... | ... | 1 | ... | ... | ... | 9 | 3 | 4 | 1 | 6 | ... | 3 | 2 | 4 | 2 | 4 | 2 | 31 | 10 | 41 |
| ... | 1 | 1 | 1 | ... | 1 | 1 | ... | 1 | ... | ... | 1 | 1 | 1 | ... | 1 | ... | ... | ... | 8 | 4 | 12 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 8 | 4 | 12 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| ... | 3 | ... | 2 | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 8 | ... | 8 |
| ... | ... | ... | ... | 2 | 1 | 1 | ... | ... | 2 | 2 | 1 | ... | 2 | 2 | 2 | ... | ... | ... | 13 | 12 | 25 |
| 2 | ... | 1 | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4 | 3 | 7 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| 5 | 2 | 4 | 4 | 6 | 6 | 7 | 14 | 13 | 19 | 8 | 22 | 13 | 30 | 13 | 22 | 10 | 4 | 1 | 132 | 81 | 213 |
| ... | 1 | ... | ... | ... | 1 | ... | 4 | 4 | 5 | 1 | 4 | 1 | 4 | 2 | 3 | 3 | 2 | 1 | 24 | 12 | 36 |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | 1 | ... | 6 | 1 | 3 | ... | 2 | ... | 14 | 1 | 15 |
| ... | ... | ... | ... | ... | 1 | ... | 1 | ... | 1 | ... | 3 | ... | 1 | 2 | 1 | ... | ... | ... | 8 | 2 | 10 |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | 2 | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | 5 | ... | 5 |
| ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 4 | ... | 4 |

TABLE XIV—Continued.

DEATHS FROM ALL CAUSES REPORTED TO THE STATE BOARD OF TO CAUSE OF DEATH,

| Sex. | M | F | M | F | M | F | M | F | M | F | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Age. | Under 1 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 |
| IV. DISEASES OF RESPIRATORY SYSTEM. | | | | | | | | | | | |
| Diseases of Larynx | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | .... |
| Bronchitis, Acute | 9 | 5 | ... | 2 | 1 | 1 | ... | ... | .... | 1 | .... |
| Bronchitis, Chronic | ... | ... | ... | ... | ... | ... | ... | ... | .... | ... | .... |
| Pneumonia | 22 | 23 | 9 | 12 | 6 | 6 | ... | 1 | 3 | 1 | 3 |
| Pleurisy | ... | ... | ... | ... | ... | ... | ... | ... | .... | ... | .... |
| Asthma | ... | ... | ... | ... | ... | ... | ... | ... | .... | ... | .... |
| Empyema | ... | ... | ... | ... | ... | ... | ... | ... | .... | ... | .... |
| V. DISEASES OF DIGESTIVE SYSTEM. | | | | | | | | | | | |
| Ulcer of Stomach | ... | ... | ... | ... | ... | ... | ... | ... | .... | ... | .... |
| Other Diseases of Stomach | ... | ... | ... | ... | ... | ... | ... | ... | .... | ... | .... |
| Diarrhoea and Enteritis under 2 | 79 | 81 | 23 | 14 | ... | ... | ... | ... | .... | ... | .... |
| Diarrhoea and Enteritis Chronic | ... | ... | ... | ... | ... | ... | ... | ... | .... | ... | .... |
| Diarrhoea and Enteritis over 2 | ... | ... | ... | ... | 10 | 5 | 4 | 2 | 1 | 4 | 2 |
| Hernia and Intestinal Obstruction | 2 | 4 | ... | ... | ... | ... | ... | ... | .... | ... | .... |
| Cirrhosis of the Liver | ... | ... | ... | ... | ... | ... | ... | ... | .... | ... | .... |
| Biliary Calculi | ... | ... | ... | ... | ... | ... | ... | ... | .... | ... | .... |
| Other Diseases of the Liver | ... | ... | ... | ... | ... | ... | ... | ... | .... | ... | .... |
| Other Diseases of Digestive System | ... | ... | ... | ... | ... | ... | ... | ... | .... | ... | .... |
| Appendicitis and Abscess of Iliac Fossa | ... | ... | ... | ... | ... | ... | ... | 3 | 1 | .... | 2 |
| Peritonitis, Simple | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | 1 |
| VI. DISEASES OF GENITO URINARY SYSTEM AND ADENEXA. | | | | | | | | | | | |
| Nephritis, acute | 4 | 2 | ... | ... | 2 | 1 | ... | 1 | .... | .... | .... |
| Brights Disease | ... | ... | ... | ... | ... | ... | ... | ... | 1 | .... | .... |
| Diseases of Bladder | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Diseases of the Prostate | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| VII. THE PUERPERAL STATE. | | | | | | | | | | | |
| Accidents of Pregnancy | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Accidents of Labor | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Septicaemia, Puerperal | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Albuminuria and Eclampsia | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| VIII. DISEASES OF SKIN AND CELLULAR TISSUE. | | | | | | | | | | | |
| Gangrene | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Carbuncle | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| IX. EARLY INFANCY. | | | | | | | | | | | |
| Congenital Debility, Icterus and Schleroma | 151 | 129 | ... | ... | ... | ... | ... | ... | .... | .... | .... |

TABLE XIV—Continued.

HEALTH FOR THE YEAR ENDING JUNE 30, 1910, ARRANGED ACCORDING AGE AND SEX.

| F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | Grand Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 10 | 15 | 15 | 20 | 20 | 30 | 30 | 40 | 40 | 50 | 50 | 60 | 60 | 70 | 70 | 80 | Over 80 | Over 80 | Total | | |
| ... | ... | ... | ... | ... | 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 2 | 4 |
| ... | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 11 | 12 | 23 |
| ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 5 | ... | 4 | 3 | 1 | 3 | ... | 1 | 11 | 7 | 18 |
| 3 | 3 | 3 | 5 | 2 | 22 | 4 | 21 | 4 | 31 | 6 | 34 | 4 | 20 | 9 | 23 | 6 | 4 | 3 | 206 | 87 | 293 |
| ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | 1 | 2 | 3 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 | 1 | 2 | 1 | ... | 1 | 4 | 4 | 8 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 | ... | 1 | ... | ... | ... | ... | ... | 4 | .... | 4 |
| ... | ... | ... | ... | ... | 1 | 1 | 1 | 1 | 2 | .... | 2 | ... | ... | 1 | ... | 1 | ... | ... | 6 | 4 | 10 |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | 3 | 1 | ... | 1 | 2 | ... | 3 | ... | ... | 1 | 8 | 4 | 12 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 102 | 95 | 197 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | ... | .... | 2 | 2 |
| ... | ... | 2 | 1 | 1 | 1 | ... | 1 | .... | .... | 1 | 4 | 2 | 2 | ... | 1 | 3 | 1 | 1 | 28 | 21 | 49 |
| ... | ... | 1 | ... | ... | 3 | ... | 2 | .... | 3 | 4 | 1 | 2 | 2 | 2 | 4 | ... | ... | ... | 17 | 13 | 30 |
| ... | ... | ... | 1 | ... | ... | ... | 4 | 1 | 12 | 2 | 8 | 1 | 2 | ... | 2 | 2 | ... | 1 | 29 | 7 | 36 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | 1 | 1 | 2 |
| ... | ... | ... | 1 | ... | 1 | ... | 2 | 1 | 1 | 2 | 1 | 2 | 1 | ... | 1 | 1 | ... | 1 | 8 | 7 | 15 |
| 1 | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .... | 3 | 3 |
| 3 | 1 | 1 | 7 | 2 | 7 | 5 | 7 | 3 | 4 | 2 | 3 | 2 | 1 | ... | ... | ... | ... | ... | 33 | 21 | 54 |
| ... | 1 | 1 | ... | ... | 2 | 5 | 4 | 6 | 4 | 3 | 2 | ... | 1 | ... | 1 | ... | ... | ... | 17 | 15 | 32 |
| ... | 1 | 1 | ... | 1 | 1 | 3 | ... | 4 | 2 | 1 | ... | ... | 1 | ... | 1 | ... | ... | ... | 12 | 14 | 26 |
| 1 | ... | ... | 2 | ... | 1 | 8 | 7 | 8 | 22 | 11 | 21 | 12 | 30 | 5 | 24 | 7 | 5 | 1 | 113 | 53 | 166 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 | ... | 1 | ... | ... | ... | 1 | ... | 5 | .... | 5 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | 2 | .... | 2 |
| ... | ... | ... | ... | ... | ... | 3 | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .... | 5 | 5 |
| ... | ... | ... | ... | 2 | ... | 8 | ... | 8 | .... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | .... | 19 | 19 |
| ... | ... | ... | ... | 3 | ... | 12 | ... | 11 | .... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | .... | 28 | 28 |
| ... | ... | ... | ... | ... | ... | 7 | ... | 1 | .... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | .... | 9 | 9 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | 2 | .... | 2 |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 151 | 129 | 280 |

TABLE XIV—Continued.

DEATHS FROM ALL CAUSES REPORTED TO THE STATE BOARD OF TO CAUSE OF DEATH,

| Sex. | M | F | M | F | M | F | M | F | M | F | M |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Age. | Under 1 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 5 | 5 |
| X. | | | | | | | | | | | |
| OLD AGE. SENILE DEBILITY. | | | | | | | | | | | |
| Senility | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| XI. | | | | | | | | | | | |
| AFFECTIONS PRODUCED BY EXTERNAL CAUSES. | | | | | | | | | | | |
| Suicide by Poisons | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Suicide by Hanging and Strangulation | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Suicide by Drowning | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Suicide by Firearms | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Suicide by Cutting Instruments | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Other Suicides | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Accidents with Firearms | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Railroad Accidents | ... | ... | ... | ... | 1 | ... | 1 | ... | ... | ... | ... |
| Accidents with Horses and Vehicles | 1 | ... | ... | ... | 2 | 1 | ... | ... | ... | 1 | 2 |
| Mine Accidents | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Other Accidental Traumatisms | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 3 |
| Burns and Scalds | ... | ... | ... | ... | 1 | 4 | ... | ... | ... | 1 | ... |
| Isolation and Freezing | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Electrical (Other than Lightning) | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Lightning | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Accidental Drowning | ... | 2 | 2 | 5 | 1 | 3 | 1 | ... | 1 | 1 | 2 |
| Accidental Poisoning | ... | ... | 1 | ... | ... | ... | ... | 1 | ... | ... | 1 |
| Homicide | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Legal Executions | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Mill Accidents | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Auto Accidents | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Chloroform Accidents | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| XII. | | | | | | | | | | | |
| DEATHS FROM ILL-DEFINED CAUSES AND STILL BIRTHS. | | | | | | | | | | | |
| Unspecified and ill-defined | 3 | 5 | 2 | 2 | ... | 1 | 3 | 1 | ... | ... | 1 |
| Stillbirths | 159 | 117 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Totals | 476 | 397 | 59 | 52 | 34 | 33 | 27 | 19 | 16 | 18 | 76 |

TABLE XIV—Continued.

HEALTH FOR THE YEAR ENDING JUNE 30, 1910, ARRANGED ACCORDING AGE AND SEX.

| F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | Grand Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 10 | 15 | 15 | 20 | 20 | 30 | 30 | 40 | 40 | 50 | 50 | 60 | 60 | 70 | 70 | 80 | Over 80 | 80 | Total | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 22 | 14 | 23 | 14 | 37 |
| ... | ... | ... | 1 | 2 | 4 | 4 | 6 | 2 | 9 | .... | 4 | 1 | 2 | ... | ... | ... | ... | ... | 26 | 9 | 35 |
| ... | ... | ... | ... | ... | 1 | ... | 1 | .... | .... | .... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | .... | 2 |
| ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | .... | 1 |
| ... | ... | ... | 1 | ... | 4 | ... | 8 | .... | 7 | 1 | 5 | ... | ... | ... | 1 | ... | ... | ... | 26 | 1 | 27 |
| ... | ... | ... | ... | ... | 1 | ... | 2 | .... | 2 | .... | ... | ... | ... | ... | 1 | ... | ... | ... | 6 | .... | 6 |
| ... | ... | ... | ... | ... | ... | ... | 1 | .... | .... | .... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | .... | 1 |
| ... | 6 | ... | 1 | ... | 3 | ... | 1 | .... | 3 | .... | ... | ... | 1 | ... | ... | ... | ... | ... | 16 | .... | 16 |
| 1 | 1 | ... | 6 | ... | 54 | ... | 45 | .... | 15 | .... | 8 | ... | 5 | ... | 2 | ... | 1 | ... | 139 | 1 | 140 |
| ... | 2 | ... | 2 | 1 | 6 | ... | 4 | 1 | 12 | .... | 5 | ... | 1 | ... | 2 | ... | ... | ... | 39 | 4 | 43 |
| ... | ... | ... | ... | ... | 24 | ... | 27 | .... | 14 | .... | 1 | ... | ... | ... | ... | ... | ... | ... | 66 | .... | 66 |
| ... | 3 | ... | 4 | ... | 14 | 1 | 12 | .... | 8 | 1 | 7 | ... | 2 | 1 | 2 | 1 | 1 | ... | 57 | 5 | 62 |
| 1 | ... | ... | ... | 1 | 2 | 2 | ... | .... | .... | .... | ... | ... | ... | 1 | 1 | ... | ... | ... | 4 | 10 | 14 |
| ... | ... | ... | 1 | ... | 2 | ... | 3 | .... | 2 | .... | 1 | ... | 1 | ... | 1 | ... | ... | ... | 12 | .... | 12 |
| ... | 1 | ... | 1 | ... | 2 | ... | 6 | .... | 1 | .... | 1 | ... | ... | ... | ... | ... | ... | ... | 12 | .... | 12 |
| ... | ... | ... | 2 | ... | ... | ... | 1 | .... | .... | .... | ... | 1 | 1 | ... | ... | ... | ... | ... | 4 | 1 | 5 |
| 1 | 4 | ... | 3 | 2 | 14 | 3 | 13 | .... | 2 | .... | 3 | ... | 2 | ... | 1 | ... | ... | ... | 49 | 17 | 66 |
| ... | ... | ... | ... | 1 | ... | ... | 3 | 1 | .... | .... | ... | ... | ... | ... | ... | ... | ... | ... | 5 | 3 | 8 |
| ... | ... | 1 | 2 | ... | 11 | 2 | 16 | 1 | 4 | 1 | 8 | ... | ... | ... | 2 | ... | ... | ... | 44 | 5 | 49 |
| ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | 0 |
| ... | ... | ... | ... | ... | 1 | ... | 1 | .... | 1 | .... | ... | ... | ... | ... | ... | ... | ... | ... | 3 | .... | 3 |
| ... | ... | ... | 1 | ... | ... | ... | ... | .... | .... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | 3 |
| ... | ... | ... | ... | ... | ... | ... | ... | 1 | .... | .... | ... | ... | ... | ... | ... | ... | ... | ... | .... | 1 | 1 |
| 1 | 2 | 1 | ... | 2 | 4 | 2 | 8 | 4 | 6 | 2 | 11 | ... | 16 | 2 | 20 | 9 | 1 | 1 | 66 | 33 | 99 |
| ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... | ... | ... | ... | ... | ... | ... | ... | ... | 159 | 117 | 276 |
| 56 | 43 | 33 | 76 | 57 | 295 | 138 | 367 | 129 | 348 | 102 | 308 | 78 | 226 | 91 | 176 | 75 | 63 | 43 | 2590 | 1321 | 3911 |

## TABLE XV.

DEATHS, (NOT INCLUDING STILL BIRTHS) REPORTED TO THE STATE BOARD ACCORDING TO COUNTRIES, PRINCIPAL

JULY.

| | Smallpox | | Spotted (Tick) Fever | | Tuberculosis | | Diphtheria | | Scarlet Fever | | Measles | | Typhoid Fever | | Meningitis | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 |
| Beaverhead | | | | | | 1 | | | | | | | | | | |
| Broadwater | | | | | | | | | | | | | | | | |
| Carbon | | | | | 1 | 2 | 2 | | | | | | | | | 1 |
| Cascade | | | | | 4 | 2 | 1 | 2 | | 2 | | | 1 | 1 | | |
| Chouteau | | | | | 3 | | | | | | | | | 1 | | |
| Custer | | | | | | | | | | | | | | | 1 | |
| Dawson | | | | | | 1 | | | | | | | | | | |
| Deer Lodge | | | | | 1 | 1 | 2 | | | | | | 1 | | | |
| Fergus | | | | | 1 | | | | | | | | | | | |
| Flathead | | | | | 3 | | | 1 | | | 1 | | 1 | | | |
| Gallatin | | | | | 1 | | | | | | | | | | | |
| Granite | | | | | 1 | | | | | | | | | | | |
| Jefferson | | | | | | | | | | | | | | | | |
| Lewis and Clark | | | | | 2 | 3 | 1 | | | | | | | | | |
| Lincoln | | | | | | | | | | | | | | | | |
| Madison | | | | | 1 | | | | | | | | | | | |
| Meagher | | | | | 1 | | | | | | | | | | | |
| Missoula | | | | 1 | 1 | | | | 1 | 1 | | | | | | |
| Park | | | | | 1 | | 1 | | 1 | | | | 1 | | | 1 |
| Powell | | | | | 1 | | | | | | | | | | | |
| Ravalli | | | 2 | | 1 | | | 1 | | | | | | | | |
| Rosebud | | | | | 1 | | | | | 1 | | | | | | |
| Sanders | | | | | | | 1 | | | | | | | | | |
| Silver Bow | | | | | 12 | 15 | | | 5 | | | | 1 | | 2 | 1 |
| Sweet Grass | | | | | 1 | | | | | 1 | | | | | | |
| Teton | | | | | | 1 | | 1 | | | | | | | | |
| Valley | | | | | 1 | | | | | | 1 | | | | | |
| Yellowstone | | | | | 1 | 3 | | 3 | | | | | | 1 | | |
| Totals | | | 2 | 1 | 39 | 29 | 8 | 8 | 7 | 5 | 2 | | 5 | 3 | 3 | 3 |

DEATHS REPORTED FROM THE NINE

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | | | | | 1 | | 2 | | | | | | 1 | | | |
| Billings | | | | | 1 | 3 | | 3 | | | | | | 1 | | |
| Bozeman | | | | | | | | | | | | | | | | |
| Butte | | | | | 7 | 5 | | | 2 | | | | 1 | | 1 | |
| Great Falls | | | | | 4 | 2 | 1 | 2 | | 2 | | | 1 | 1 | | |
| Helena | | | | | 2 | 3 | 1 | | | | | | | | | |
| Kalispell | | | | | | | | 1 | | | | | | | | |
| Livingston | | | | | | | 1 | | 1 | | | | | | | 1 |
| Missoula | | | | 1 | 1 | | | | | | | | | | | |

TABLE XV.

OF HEALTH DURING THE TWO YEARS ENDING JUNE 30, 1910, ARRANGED CITIES, AND PRINCIPAL CAUSES.

JULY.

| Whooping Cough. | | Pneumonia | | Nephritis | | Organic Heart Disease | | Malignant Tumors | | Acute Intestinal Diseases | | Violence | | Suicide | | Alcoholism | | All other Causes. | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 |
| ... | ... | ... | 2 | ... | 1 | 1 | .... | 1 | .... | .... | ... | 3 | ... | ... | ... | .... | 1 | 1 | 1 | 6 | 6 |
| ... | ... | ... | ... | ... | ... | ... | .... | 1 | .... | .... | ... | 1 | 1 | ... | ... | .... | .... | .... | 1 | 2 | 2 |
| ... | ... | ... | ... | ... | 1 | 1 | .... | .... | 1 | .... | ... | 4 | 3 | ... | ... | .... | .... | 2 | 3 | 10 | 11 |
| ... | ... | 2 | ... | 1 | 1 | 3 | 1 | .... | 1 | .... | 2 | 5 | 3 | ... | ... | .... | .... | 4 | 8 | 21 | 23 |
| ... | ... | ... | ... | 1 | ... | .... | 1 | .... | .... | .... | 1 | ... | 2 | 2 | 1 | .... | .... | 1 | 2 | 7 | 7 |
| ... | ... | ... | ... | ... | ... | 1 | .... | .... | .... | .... | 1 | 2 | 3 | ... | 1 | .... | .... | 2 | 3 | 6 | 9 |
| ... | ... | 1 | ... | ... | ... | 1 | .... | .... | .... | .... | ... | ... | 4 | ... | 2 | .... | .... | .... | 2 | 2 | 9 |
| ... | ... | 1 | 2 | 1 | ... | 1 | .... | .... | .... | 1 | ... | 2 | ... | ... | ... | 1 | .... | 13 | 5 | 24 | 8 |
| ... | ... | 1 | 1 | ... | ... | .... | .... | .... | .... | .... | ... | 1 | ... | ... | ... | .... | .... | 7 | 3 | 10 | 4 |
| ... | ... | ... | 1 | 1 | ... | 1 | .... | .... | .... | 1 | ... | 4 | 2 | 1 | ... | 1 | .... | 2 | 3 | 16 | 7 |
| ... | 1 | ... | ... | ... | ... | .... | 1 | 1 | .... | .... | ... | 4 | 1 | ... | 1 | .... | .... | 1 | 2 | 7 | 6 |
| ... | ... | ... | ... | ... | ... | .... | .... | .... | .... | .... | ... | 2 | 1 | ... | ... | .... | .... | .... | .... | 3 | 1 |
| ... | ... | ... | ... | ... | 1 | .... | .... | .... | 1 | 1 | 2 | 4 | 3 | ... | ... | .... | .... | 3 | .... | 8 | 7 |
| ... | ... | 2 | ... | 2 | ... | 2 | 1 | .... | 3 | 1 | ... | 1 | 4 | ... | ... | 2 | 1 | 6 | 6 | 19 | 18 |
| ... | ... | ... | ... | ... | ... | .... | .... | .... | .... | .... | ... | ... | 2 | ... | ... | .... | .... | .... | .... | .... | 2 |
| ... | ... | ... | ... | ... | ... | .... | .... | .... | 2 | .... | ... | 2 | ... | ... | ... | .... | .... | 2 | 3 | 5 | 4 |
| ... | ... | 1 | 1 | ... | 1 | 1 | .... | .... | .... | .... | ... | 1 | 1 | ... | ... | .... | .... | .... | .... | 4 | 3 |
| ... | ... | ... | ... | ... | 1 | 1 | 3 | 1 | 1 | 1 | 3 | 9 | 6 | 1 | 3 | 2 | 1 | 8 | 8 | 25 | 28 |
| ... | ... | ... | 1 | 1 | ... | 1 | .... | 1 | .... | 1 | ... | 1 | 4 | ... | 1 | .... | 3 | .... | 1 | 9 | 11 |
| ... | ... | ... | 1 | ... | ... | .... | .... | .... | .... | .... | ... | ... | 4 | ... | ... | .... | .... | .... | 1 | 1 | 6 |
| ... | ... | 2 | ... | ... | ... | 1 | .... | .... | .... | 1 | ... | 3 | ... | ... | ... | .... | .... | .... | 1 | 10 | 2 |
| ... | ... | 1 | ... | ... | 1 | .... | .... | .... | .... | .... | ... | 1 | ... | 1 | ... | .... | .... | .... | .... | 4 | 2 |
| ... | ... | ... | ... | ... | ... | .... | .... | .... | .... | .... | ... | 2 | 2 | 1 | 2 | .... | .... | 1 | .... | 5 | 4 |
| ... | 2 | 4 | 7 | 3 | ... | 9 | 2 | 3 | 4 | 3 | 3 | 8 | 13 | 1 | 2 | 3 | 2 | 23 | 19 | 77 | 70 |
| ... | ... | ... | ... | ... | ... | .... | .... | .... | .... | .... | ... | 1 | ... | ... | 1 | .... | .... | .... | 2 | 2 | 4 |
| ... | ... | ... | ... | ... | ... | .... | .... | .... | .... | .... | ... | 1 | 1 | ... | ... | .... | .... | .... | 4 | 1 | 7 |
| ... | ... | ... | ... | ... | ... | 1 | 1 | .... | .... | .... | ... | 9 | 1 | ... | ... | .... | 1 | 1 | 2 | 13 | 5 |
| ... | ... | ... | 1 | ... | ... | 1 | .... | .... | 1 | .... | 2 | 3 | 8 | ... | 1 | .... | .... | 6 | 2 | 11 | 22 |
| .... | 3 | 15 | 17 | 10 | 7 | 26 | 10 | 8 | 13 | 10 | 14 | 74 | 69 | 7 | 15 | 9 | 9 | 83 | 82 | 308 | 288 |

PRINCIPAL CITIES IN MONTANA.

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .... | ... | 1 | 1 | 1 | ... | 1 | .... | .... | .... | 1 | ... | 2 | ... | ... | ... | 1 | .... | 5 | 3 | 16 | 4 |
| .... | ... | ... | 1 | ... | ... | 1 | .... | .... | 1 | .... | 2 | 2 | 4 | ... | ... | .... | .... | 3 | 2 | 7 | 17 |
| .... | ... | ... | ... | ... | ... | .... | .... | 1 | .... | .... | ... | 1 | ... | ... | ... | .... | .... | .... | .... | 2 | .... |
| .... | 1 | 3 | 7 | 1 | ... | 6 | 2 | 3 | 3 | 2 | ... | 4 | 9 | 1 | 1 | 2 | 2 | 14 | 11 | 47 | 41 |
| .... | ... | 1 | ... | 1 | 1 | 2 | 1 | .... | 1 | .... | 1 | 5 | 2 | ... | ... | .... | .... | 3 | 8 | 18 | 21 |
| .... | ... | 1 | ... | 2 | ... | 1 | .... | .... | 3 | 1 | ... | 1 | ... | ... | ... | 2 | 1 | 3 | 3 | 14 | 10 |
| .... | ... | ... | ... | ... | ... | .... | .... | .... | .... | .... | ... | ... | ... | ... | ... | .... | .... | .... | 3 | .... | 1 |
| .... | ... | ... | ... | 1 | ... | .... | .... | .... | .... | .... | ... | ... | 1 | ... | ... | .... | 3 | .... | .... | 3 | 3 |
| .... | ... | ... | ... | ... | 1 | 1 | 3 | .... | 1 | 1 | 3 | ... | ... | 1 | ... | 1 | .... | 5 | 7 | 10 | 13 |

TABLE XV.—Continued.

AUGUST.

| | Smallpox | | Spotted (Tick) Fever | | Tuberculosis | | Diphtheria | | Scarlet Fever | | Measles | | Typhoid Fever | | Meningitis | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 |
| Beaverhead | | | | | | | | 1 | | | | | | | | |
| Broadwater | | | | | | | | | | | | | | | | |
| Carbon | | | | | | 2 | 2 | | | | | | 1 | | | 1 |
| Cascade | | | | | | 2 | | | | 1 | | | | 1 | | 1 |
| Chouteau | | | | | 1 | 2 | 1 | 1 | | | | | 1 | 1 | | |
| Custer | | | | | | 2 | | | | | | | 1 | | | |
| Dawson | | | | | 1 | | | | | 1 | | | | | | |
| Deer Lodge | | | | | 3 | 1 | 1 | | | | | | | | | |
| Fergus | | | | | | | | | | | | | | | | |
| Flathead | | | | | 2 | | | | | | | | 1 | | | 2 |
| Gallatin | | | | | 1 | 1 | | | | 2 | | | | 1 | | |
| Granite | | | | | | 1 | | | | | | | | | | |
| Jefferson | | | | | | | 1 | | | | | | | | | |
| Lewis and Clark | | | | | 2 | | | 1 | 1 | | | | | 1 | | |
| Lincoln | | | | | | | | | | 1 | | | | | | |
| Madison | | | | | | | | | | | | | | | | |
| Meagher | | | | | | | | | | | | | | | | |
| Missoula | | | | 1 | 2 | 1 | 2 | 1 | | | | | 4 | 1 | 1 | |
| Park | | | | | | 2 | | | | | | | | | | |
| Powell | | | | | | | | | | | | | 1 | | | |
| Ravalli | | | | 1 | | | | | | | | | | 1 | | |
| Rosebud | | | | | 1 | 1 | | | | | | | | | | |
| Sanders | | | | | | | | | | | | | | | | |
| Silver Bow | | | | | 6 | 13 | 3 | 2 | 2 | | | | 4 | | 2 | 4 |
| Sweet Grass | | | | | | 1 | | | | | | | 1 | | | |
| Teton | | | | | | | | | | | | | | | | |
| Valley | | | | | | | | | | | | | | 2 | | |
| Yellowstone | | | | | 1 | 4 | 1 | | | | | | | | | |
| Totals | | | | 2 | 20 | 33 | 11 | 6 | 3 | 5 | | | 14 | 8 | 3 | 8 |

DEATHS REPORTED FROM THE NINE

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | | | | | 2 | | 1 | | | | | | | | | |
| Billings | | | | | 1 | 3 | 1 | | | | | | | | | |
| Bozeman | | | | | | | | | | | | 1 | | | | |
| Butte | | | | | 4 | 10 | | 2 | 1 | | | | 3 | | 1 | 2 |
| Great Falls | | | | | | 2 | | | | | | | | 1 | | 1 |
| Helena | | | | | 2 | | | 1 | 1 | | | | | 1 | | |
| Kalispell | | | | | | | | | | | | | | | | 1 |
| Livingston | | | | | | | | | | | | | | | | |
| Missoula | | | | | 2 | 1 | 1 | | | | | | 4 | 1 | 1 | |

TABLE XV.—Continued.

AUGUST.

| | Whooping Cough. | | Pneumonia | | Nephritis | | Organic Heart Disease | | Malignant Tumors | | Acute Intestinal Diseases | | Violence | | Suicide | | Alcoholism | | All other Causes. | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 |
| | | | | | | | 2 | | | 1 | | 1 | | 4 | | | | | 2 | 2 | 4 | 9 |
| | | | | 1 | 1 | | | | | | | 1 | | 1 | | | | | 2 | 1 | 3 | 4 |
| | | | | | | | 1 | | | | | 7 | 1 | 1 | | | | | 2 | 8 | 7 | 19 |
| | | | 1 | | | | 4 | 2 | 3 | | | 3 | 7 | 5 | | 1 | 1 | | 9 | 8 | 27 | 24 |
| | | | 1 | | | 1 | 1 | 1 | 1 | | | 3 | 4 | | | | 1 | | 4 | 1 | 16 | 10 |
| | 1 | | 1 | | | | 1 | | | | 2 | 5 | 1 | 3 | | 1 | | 1 | 1 | 1 | 6 | 15 |
| | | | | | | | 1 | 2 | | 1 | 2 | | 4 | 1 | | | | | | 6 | 8 | 11 |
| | | | 1 | | 1 | | 1 | | 1 | | 2 | 1 | 4 | 3 | | | 1 | | 8 | 5 | 21 | 12 |
| | | 1 | | | | | | 1 | | | | 1 | 2 | 1 | 1 | | | | 3 | 7 | 7 | 11 |
| | | 2 | | 1 | | | | 1 | 3 | 1 | 1 | 2 | 2 | 3 | | 1 | 2 | | 5 | 4 | 19 | 14 |
| | | | 2 | | 1 | 1 | 2 | | | | 2 | 2 | 4 | 1 | | | | | 2 | 4 | 10 | 16 |
| | | | | 2 | | | 1 | | | | | | | | | | | | 2 | 1 | 5 | 2 |
| | | | | | | | | 1 | | 1 | 1 | 1 | | | | | | | 1 | | 3 | 3 |
| | | | | 3 | | 2 | 4 | 1 | | | 1 | 3 | 2 | 2 | 1 | | | | 5 | 7 | 18 | 18 |
| | | | | | | | | | | | | 1 | | | | | | | | | | 2 |
| | | 1 | | | | | | | | | 3 | 3 | 1 | 2 | | | | | 1 | 4 | 6 | 9 |
| | | | | | | | | | | | | | 1 | 1 | | | | 1 | | 2 | 1 | 4 |
| | | 2 | | 2 | | 1 | | 1 | 2 | 9 | | 3 | 10 | 3 | 1 | 1 | | | 9 | 6 | 44 | 19 |
| | | 1 | | | 1 | | | | | 2 | | 6 | 1 | 1 | | | | | 2 | 2 | 6 | 12 |
| | | 1 | 1 | | | | | 2 | 3 | | | | 1 | 1 | | | 1 | | 2 | 1 | 11 | 5 |
| | | | | | | | | 1 | | | | | | 1 | | | | | 2 | 3 | 4 | 7 |
| | | 1 | | | | | | | | 1 | | 1 | | | | | | | 2 | 2 | 4 | 5 |
| | | | | | | | 1 | 1 | | | | | 2 | | | | | | | 2 | 3 | 3 |
| | 4 | 4 | 1 | 4 | 3 | 4 | 5 | 2 | 2 | 13 | | 24 | 9 | 10 | | 1 | 4 | 1 | 18 | 17 | 75 | 87 |
| | | 1 | | | | | | | | | | | | | | | | | | 2 | 2 | 3 |
| | | | | | | | | | 1 | | | 1 | | 1 | | | | | 1 | | 2 | 2 |
| | | | | | | | | | | 5 | | 1 | 1 | 2 | | | | | 3 | 3 | 9 | 8 |
| | 2 | 1 | | 1 | | 2 | | 1 | 1 | 2 | | 7 | 1 | 2 | 1 | | 1 | | 5 | 8 | 17 | 24 |
| | 7 | 17 | 7 | 11 | 7 | 23 | 23 | 17 | 11 | 52 | | 77 | 58 | 49 | 4 | 5 | 11 | 3 | 91 | 107 | 338 | 358 |

PRINCIPAL CITIES IN MONTANA.

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | 1 | 1 | | 1 | | 2 | | 4 | 3 | | | 1 | | | 4 | 3 | 16 | 8 |
| | 1 | 1 | | | | 1 | | | 1 | 1 | 6 | 1 | 1 | | | | | | 2 | 4 | 8 | 16 |
| | | | 2 | | 1 | 1 | | | 2 | | | 2 | | | | | | | 2 | 2 | 5 | 8 |
| | 2 | | 1 | 3 | 3 | 4 | 3 | 2 | 2 | 8 | 11 | 4 | 7 | | 1 | 3 | | | 12 | 17 | 45 | 64 |
| | | 1 | | | | 2 | 1 | 3 | | 2 | 2 | 3 | 3 | | 1 | 1 | | | 8 | 4 | 21 | 15 |
| | | | | 2 | | | 3 | | | 1 | 2 | 1 | 1 | | | | | | 3 | 5 | 10 | 13 |
| | | | | | | | | | 1 | | 1 | | 1 | | 1 | | | | | 2 | | 7 |
| | | | | | | | | | | 2 | 3 | 1 | 1 | | | | | | 2 | 2 | 5 | 6 |
| | | | | | | 1 | | 1 | 2 | 6 | 1 | 3 | | | 1 | | | | 5 | 3 | 26 | 10 |

TABLE XV.—Continued.

SEPTEMBER.

| | Smallpox | | Spotted (Tick) Fever | | Tuberculosis | | Diphtheria | | Scarlet Fever | | Measles | | Typhoid Fever | | Meningitis | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 |
| Beaverhead | | | | | | 1 | | | | | | | | | | |
| Broadwter | | | | | | | | | | | | | | | | |
| Carbon | | | | | 1 | 1 | 2 | | | 1 | | 1 | 2 | 2 | 1 | |
| Cascade | | | | | | 4 | | 1 | 1 | | | | 2 | 2 | | |
| Chouteau | | | | | | | | 2 | | | | | | | | |
| Custer | | | | | | 1 | | | | | | | 1 | | | |
| Dawson | | | | | 1 | 1 | | | | | | | | 1 | | |
| Deer Lodge | | | | | | | 2 | | | | | | | | | |
| Fergus | | | | | | 2 | | | | | | | 1 | | | |
| Flathead | | | | | 3 | | | | | | | | 3 | 2 | | |
| Gallatin | | | | | | | | | | | | | 1 | 2 | | |
| Granite | | | | | | | | | | | | | | | | |
| Jefferson | | | | | | | | | | | | | | | 1 | |
| Lewis and Clark | | | | | 1 | | | | | | | | | 2 | | |
| Lincoln | | | | | | | | 1 | | | | | | | | |
| Madison | | | | | | 2 | | | | | | | | | | |
| Meagher | | | | | | | | | | | | | | | | 1 |
| Missoula | | | | | 2 | 1 | 2 | 1 | | | | | 8 | 1 | | 2 |
| Park | | | | | | 1 | | | | | | | | 2 | | |
| Powell | | | | | | 1 | | | | | | | | | | |
| Ravalli | | | | | | | | | | | | | | | | |
| Rosebud | | | | | | | | | | | | | | 1 | | |
| Sanders | | | | | | | | | | | | | | | | |
| Silver Bow | | | | | 9 | 13 | 4 | 1 | 7 | | | | 5 | 4 | 2 | |
| Sweet Grass | | | | | 1 | | | | | 1 | | | 1 | | | |
| Teton | | | | | | | | | | | | | | | | |
| Valley | | | | | | | | | | | | | | | | |
| Yellowstone | | | | | 3 | 1 | 1 | | | | | | 2 | 2 | | |
| Totals | | | | | 21 | 29 | 11 | 6 | 8 | 2 | | 1 | 26 | 21 | 4 | 3 |

DEATHS REPORTED FROM THE NINE

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | | | | | | | 2 | | | | | | | | | |
| Billings | | | | | 2 | 1 | 1 | | | | | | 2 | 1 | | |
| Bozeman | | | | | | | | | | | | | | 1 | | |
| Butte | | | | | 6 | 7 | 1 | 1 | 5 | | | | 3 | 4 | 1 | |
| Great Falls | | | | | | 4 | | 1 | 1 | | | | 2 | 1 | | |
| Helena | | | | | 1 | | | | | | | | | 1 | | |
| Kalispell | | | | | | | | | | | | | | 1 | | |
| Livingston | | | | | | 1 | | | | | | | | 1 | | |
| Missoula | | | | | 2 | | 2 | 1 | | | | | 5 | 1 | | 2 |

TABLE XV.—Continued.

SEPTEMBER.

| | Whooping Cough. | | Pneumonia | | Nephritis | | Organic Heart Disease | | Malignant Tumors | | Acute Intestinal Diseases | | Violence | | Suicide | | Alcoholism | | All other Causes. | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 |
| Aberdeen | .... | .... | 1 | 1 | .... | .... | 1 | .... | .... | 1 | .... | 2 | 1 | .... | .... | .... | .... | .... | 1 | 3 | .... | 5 | 5 | 5 |
| Anaconda | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 2 | 1 | .... | 1 | 1 | .... | 1 | .... | 2 | .... | 6 | 3 | 3 |
| Bozeman | .... | .... | 1 | .... | 1 | .... | .... | .... | .... | .... | .... | 8 | 5 | 3 | 1 | .... | 1 | .... | .... | 3 | 3 | 22 | 15 | 15 |
| Butte | .... | .... | 4 | .... | 1 | .... | .... | 1 | .... | .... | .... | 7 | 3 | 1 | 3 | 1 | .... | .... | 2 | 6 | 10 | 23 | 26 | 26 |
| Deer Lodge | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | 2 | .... | .... | .... | .... | 1 | .... | 3 | .... | 5 |
| Great Falls | .... | .... | 1 | .... | .... | 1 | 1 | 1 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | 1 | .... | 1 | 5 | 7 | 7 |
| Helena | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | 1 | .... | 2 | .... | .... | .... | .... | .... | 4 | 3 | 9 | 5 | 5 |
| Kalispell | .... | .... | 1 | .... | .... | .... | 2 | .... | .... | .... | .... | 4 | 2 | .... | 3 | .... | .... | .... | .... | 5 | 5 | 14 | 10 | 10 |
| Livingston | .... | .... | 1 | .... | .... | .... | .... | .... | 2 | 1 | .... | 2 | 2 | 2 | 1 | .... | .... | .... | .... | .... | .... | 8 | 6 | 6 |
| Missoula | .... | .... | .... | .... | 1 | .... | 2 | 1 | 2 | .... | .... | 5 | 4 | 3 | 1 | .... | .... | 1 | .... | 7 | 4 | 27 | 12 | 12 |
| Virginia City | .... | .... | 1 | 1 | 2 | .... | 1 | .... | 1 | .... | .... | 1 | 6 | 1 | 1 | 1 | .... | .... | .... | 2 | 5 | 11 | 15 | 15 |
| Warm Springs | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | .... | .... | .... | .... | .... | 1 | .... | 3 | 0 | 0 |
| Other Counties | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | .... | .... | .... | .... | .... | 4 | 0 | 0 |
| Total Cities | 1 | .... | .... | .... | 2 | 5 | 2 | 2 | 3 | .... | 3 | 3 | 2 | 3 | 2 | 1 | .... | .... | 8 | 11 | 23 | 28 | 28 | 28 |
| Total Counties | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | 2 |
| Total State | 2 | 1 | .... | .... | .... | .... | 2 | 1 | 2 | 1 | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | 5 | 1 | 11 | 8 | 8 |
| Total Urban | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | 2 | .... | .... | .... | .... | .... | .... | .... | 1 | 2 | 4 | 4 |
| Total Rural | .... | .... | 2 | 1 | .... | 1 | 1 | 2 | 1 | 1 | 2 | 7 | 2 | 9 | 1 | 1 | 3 | 2 | 13 | 6 | 37 | 35 | 35 | 35 |
| Total Cities and Counties | .... | .... | .... | .... | .... | 2 | .... | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 1 | .... | .... | .... | 6 | .... | 11 | 11 | 11 | 11 |
| Total Cities and State | .... | .... | 1 | 1 | 1 | 2 | 1 | .... | .... | .... | .... | 2 | 4 | 2 | .... | .... | .... | .... | 1 | 2 | 8 | 10 | 10 | 10 |
| Total Counties and State | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | .... | 3 | 1 | .... | .... | 1 | .... | .... | .... | 3 | 2 | 8 | 4 | 4 | 4 |
| Total Cities, Counties and State | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 |
| Total Deaths | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | 3 | 7 | .... | 1 | .... | .... | .... | .... | 1 | 8 | 5 | 5 | 5 |
| Total Cases | 1 | .... | 6 | 7 | 4 | 2 | 4 | 5 | 2 | 3 | 13 | 19 | 9 | 4 | 2 | .... | 2 | 1 | 24 | 22 | 92 | 82 | 82 | 82 |
| Total Cases Reported | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | .... | 1 | .... | .... | 1 | .... | .... | 1 | 3 | 5 | 5 | 5 |
| Total Deaths Reported | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 2 | 1 | .... | .... | .... | .... | .... | 3 | 1 | 6 | 6 | 6 |
| Total Cases Not Reported | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | 1 | .... | .... | .... | 2 | 1 | 3 | 4 | 4 | 4 |
| Total Deaths Not Reported | .... | .... | .... | .... | 1 | 1 | .... | 1 | .... | 1 | 3 | 3 | 7 | 23 | .... | 1 | .... | .... | 4 | 4 | 39 | 18 | 18 | 18 |
| Total | .... | 4 | 20 | 12 | 16 | 17 | 18 | 17 | 15 | 11 | 60 | 78 | 68 | 36 | 12 | 3 | 8 | 7 | 100 | 86 | 387 | 333 | 333 | 333 |

PRINCIPAL CITIES IN MONTANA.

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 4 | 2 | .... | 2 | .... | .... | .... | .... | 4 | 4 | 11 | 8 | 8 | 8 |
| Butte | .... | .... | .... | .... | 1 | 2 | .... | 1 | .... | 1 | 3 | 6 | 5 | .... | .... | .... | .... | .... | 3 | 4 | 17 | 16 | 16 | 16 |
| Deer Lodge | .... | .... | .... | .... | 1 | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | 1 | 2 | 4 | 4 | 4 | 4 |
| Great Falls | .... | .... | 3 | 5 | 3 | 2 | 2 | 3 | 2 | 2 | 8 | 11 | 5 | 2 | 1 | .... | .... | 1 | 13 | 13 | 53 | 51 | 51 | 51 |
| Helena | .... | .... | 2 | .... | 1 | .... | .... | 1 | .... | .... | 6 | .... | .... | 3 | 1 | .... | .... | 2 | 5 | 9 | 18 | 21 | 21 | 21 |
| Missoula | .... | .... | .... | .... | 2 | 4 | 1 | 2 | 3 | .... | 2 | 2 | 2 | 1 | 1 | 1 | .... | .... | 7 | 9 | 19 | 20 | 20 | 20 |
| Virginia City | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | .... | 3 | .... | .... | .... | .... | .... | .... | .... | 4 | .... | 9 | 9 | 9 |
| Other Counties | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 2 | .... | 1 | 2 | .... | .... | .... | .... | 3 | .... | 6 | 6 | 6 | 6 |
| Total | .... | .... | 1 | 1 | .... | 1 | 1 | 1 | 1 | 1 | 2 | 4 | 1 | 5 | 1 | 1 | 2 | .... | 8 | 5 | 26 | 23 | 23 | 23 |

TABLE XV.—Continued.

OCTOBER.

| | Smallpox | | Spotted (Tick) Fever | | Tuberculosis | | Diphtheria | | Scarlet Fever | | Measles | | Typhoid Fever | | Meningitis | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 |
| Beaverhead | | | | | | | 1 | | | | | | 1 | | | |
| Broadwater | | | | | | | | | | | | | | | | |
| Carbon | | | | | 1 | | | | | | | | 1 | 1 | 2 | |
| Cascade | | | | | | 1 | 2 | 2 | | | | | 1 | 2 | | |
| Chouteau | | | | | 1 | | 1 | | | | | | | | | |
| Custer | | | | | 1 | | | | | | | | 2 | 1 | | |
| Dawson | | | | | | | | 2 | | | | | | 2 | 1 | |
| Deer Lodge | | | | | 3 | | | | | | | | | | | |
| Fergus | | | | | 2 | | | | | | 1 | | 1 | 1 | | |
| Flathead | | | | | 1 | 2 | 2 | | | | | | 1 | | | |
| Gallatin | | | | | | 1 | 1 | | | | | | | | | |
| Granite | | | | | | | | | | | | | | | | |
| Jefferson | | | | | 1 | | | | | | | | | | | |
| Lewis and Clark | | | | | 4 | | | | | 2 | | | | | | |
| Lincoln | | | | | | | | | | | | | | 1 | | |
| Madison | | | | | 1 | | | | | | | | 1 | | | |
| Meagher | | | | | | | | | | | | | | | | |
| Missoula | | | | | 2 | 2 | | 1 | | | | | 7 | 2 | | |
| Park | | | | | 2 | | | | | | | | | | | |
| Powell | | | | | | | | | | | | | | | | |
| Ravalli | | | | | | | | | | | | | | | | |
| Rosebud | | | | | | | | | | | | | | | | |
| Sanders | | | | | 1 | | | | | | | | | | | |
| Silver Bow | | | | | 9 | 18 | 2 | 1 | 2 | | | | 4 | 5 | 1 | 1 |
| Sweet Grass | | | | | | | | | | | | | | | | |
| Teton | | | | | | | | | | | | | | 1 | | 1 |
| Valley | | | | | 1 | | | 1 | | | | | | | | |
| Yellowstone | | | | | 1 | | | | | | | | | 2 | | |
| Totals | | | | | 31 | 24 | 9 | 10 | 2 | 2 | 1 | | 19 | 18 | 4 | 2 |

DEATHS REPORTED FROM THE NINE

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | | | | | 3 | | | | | | | | | | | |
| Billings | | | | | 1 | | | | | | | | | | | |
| Bozeman | | | | | | 1 | 1 | | | | | | | | | |
| Butte | | | | | 14 | 12 | 1 | 3 | 1 | | | | | 4 | | 1 |
| Great Falls | | | | | | | 2 | 2 | | | | | 1 | 1 | | |
| Helena | | | | | 4 | | | | | | | | | | | |
| Kalispell | | | | | | | | | | | | | | | | |
| Livingston | | | | | | | | | | | | | | | | |
| Missoula | | | | | 2 | 2 | | 1 | | | | | 6 | 2 | | |

TABLE XVI—Continued.

OCTOBER.

| | Whooping Cough. | | Pneumonia | | Nephritis | | Organic Heart Disease | | Malignant Tumors | | Acute Intestinal Diseases | | Violence | | Suicide | | Alcoholism | | All other Causes. | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 |
| | | | 1 | | | | | | | | | | 1 | 1 | | | | | 2 | 2 | 6 | 3 |
| | | | | | | | | | 1 | 1 | 2 | 1 | | 1 | | | | 1 | 1 | 2 | 4 | 6 |
| | | | 2 | 2 | | | | | | | 1 | | 3 | 2 | | 1 | | | 2 | 3 | 13 | 8 |
| | | | 1 | 2 | 1 | 1 | 1 | 2 | | 1 | 1 | 2 | 4 | 3 | 2 | 1 | 1 | | 9 | 12 | 23 | 29 |
| | | | | | 3 | | | | 1 | 1 | | | 5 | | | | | | 2 | 4 | 13 | 5 |
| | | | 1 | | | 1 | 2 | | 1 | | | 2 | | 2 | | | | | 1 | 3 | 7 | 10 |
| | | | | | | | | | 1 | | | 1 | 1 | 3 | | | | 1 | 2 | 1 | 5 | 10 |
| | | | | | | 1 | 2 | | 1 | | 1 | 1 | 1 | 1 | | | | | 10 | 6 | 16 | 11 |
| | | | | | | | | | 1 | | | 1 | 2 | 2 | 2 | | | | 1 | 2 | 9 | 7 |
| | | | 1 | | | 1 | 2 | | 1 | | 2 | 2 | 6 | 2 | | | | | 7 | 2 | 21 | 12 |
| | | | 1 | | 1 | 3 | | | 1 | 1 | | 3 | 2 | | | | | | 7 | 2 | 16 | 8 |
| | | | | | | | | | | 1 | | | 1 | | | | | | | 1 | 1 | 2 |
| | | | | | | | | | 1 | | | | 1 | | | | | | | 1 | 3 | 2 |
| | | | 2 | 2 | | 2 | 5 | | 1 | | | 3 | 2 | 3 | 5 | 3 | | | 11 | 4 | 31 | 18 |
| | | | | | | | | | | | | | | | | | | | | | | 1 |
| | | | | | | 1 | | | | | | | 1 | | 1 | | 1 | | 1 | 2 | 3 | 6 |
| | | | | 1 | | | 1 | | | | | | 1 | 1 | 1 | | 1 | | 1 | 1 | 5 | 3 |
| | | | 4 | 2 | 1 | 1 | | 5 | 1 | 1 | | | 2 | 7 | 2 | | | | 8 | 6 | 30 | 24 |
| | | | | | | | | | | | | | | 1 | | | | | 4 | 1 | 7 | 1 |
| | | | | 1 | | | | | 1 | | | | | | 2 | 1 | | | 1 | | 2 | 4 |
| | | | 1 | | | 1 | | | | 1 | 1 | 1 | | 1 | | | | | 1 | 4 | 5 | 6 |
| | | | | | | | | | | | | | | | | | | | | | 0 | 0 |
| | | | | | | | | | | | | | | 1 | | | | | | | 2 | 0 |
| | 1 | | 7 | 7 | 1 | 3 | 4 | 6 | 5 | 5 | 3 | | 1 | 6 | 8 | | 1 | 1 | 25 | 13 | 70 | 73 |
| | | | 1 | | 1 | | | | | | | | | 1 | 1 | | | | | 1 | 3 | 2 |
| | | | | | | | | | | | | | 2 | 1 | 1 | | | | 1 | 2 | 2 | 8 |
| | | | | | | 1 | | | 1 | | | | | 4 | 3 | | | | 1 | 3 | 7 | 8 |
| | | | 2 | 2 | 1 | 2 | | | | 1 | 2 | | 4 | 1 | 4 | | 1 | | 6 | 5 | 13 | 22 |
| | 1 | | 24 | 19 | 9 | 18 | 17 | 21 | 13 | 14 | 17 | | 24 | 54 | 45 | 9 | 4 | 4 | 104 | 83 | 317 | 289 |

PRINCIPAL CITIES IN MONTANA.

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | | 1 | | 1 | | | 1 | 1 | 1 | | | | 7 | 3 | 11 | 8 |
| | | 1 | 2 | 1 | 2 | | | | | | 1 | | 3 | | 2 | | 1 | 1 | 5 | 4 | 9 | 15 |
| | | | | | 3 | | | | 1 | | 1 | | | 1 | | | | | 4 | 2 | 8 | 6 |
| | 1 | 3 | 6 | 4 | 3 | 9 | 3 | 5 | 5 | 2 | | | 1 | 6 | 5 | 1 | 1 | | 18 | 9 | 64 | 54 |
| | | 1 | 2 | 1 | | 1 | 1 | | 1 | 1 | | | 1 | 4 | 2 | 1 | 1 | | 8 | 8 | 20 | 20 |
| | | 2 | 2 | | 2 | 3 | 1 | | | 3 | | | 1 | 1 | 1 | 3 | | | 10 | 4 | 26 | 11 |
| | | | | | 1 | | | | | | | | 1 | | 1 | | | | | 2 | | 5 |
| | | | | | | | | | | | | | | | | | | | 2 | 1 | 2 | 1 |
| | | 3 | 1 | 1 | | | 4 | | 1 | | | | 2 | 1 | | | | | 6 | 3 | 19 | 16 |

TABLE XV.—Continued.

NOVEMBER.

| | Smallpox | | Spotted (Tick) Fever | | Tuberculosis | | Diphtheria | | Scarlet Fever | | Measles | | Typhoid Fever | | Meningitis | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 |
| Beaverhead | | | | | | 1 | | | | | | | | | 1 | |
| Broadwater | | | | | | 1 | | | | | | | | | | |
| Carbon | | | | | | | 1 | 1 | | | | | 1 | 1 | | |
| Cascade | | | | | 3 | 1 | 1 | 1 | 1 | | | | 3 | 2 | 1 | 1 |
| Chouteau | | | | | | | | | | | | | 1 | | | |
| Custer | | | | | | 1 | 2 | | | | | | | | | |
| Dawson | | | | | | 1 | | 3 | | | | | | | | 1 |
| Deer Lodge | | | | | | | 1 | | 1 | | | | 2 | 1 | | |
| Fergus | | | | | | 1 | | | | | 1 | | | | | |
| Flathead | | | | | 1 | 2 | 2 | | | | | | 1 | 2 | | |
| Gallatin | 1 | | | | | 1 | | | 1 | 1 | | | | | | |
| Granite | | | | | | | | | | | | | | | | 1 |
| Jefferson | | | | | | | 1 | | | | | | | | | |
| Lewis and Clark | | | | | 2 | 1 | 2 | | 2 | | | | | 2 | | |
| Lincoln | | | | | | | | | | | | | | | | |
| Madison | | | | | | | | | | | | | | 1 | | |
| Meagher | | | | | | 1 | | | | | | | | | | |
| Missoula | | | | | 1 | | 2 | | 1 | | | | 5 | | | |
| Park | | | | | | 2 | | | 1 | | | | | | | |
| Powell | | | | | | | | | | 1 | | | | 1 | | |
| Ravalli | | | | | 1 | | | | | 1 | | | 1 | | | |
| Rosebud | | | | | | | | 1 | | | | | | | | |
| Sanders | | | | | | | | | | 1 | | | | | | |
| Silver Bow | | | | | 16 | 18 | 1 | 6 | 1 | | | | 1 | | | |
| Sweet Grass | | | | | | | | | | 1 | | | | | | |
| Teton | | | | | | | | | | | | | | | | |
| Valley | | | | | | | | 1 | | | | | 1 | 1 | | |
| Yellowstone | | | | | 1 | 1 | | | | | | | 1 | 3 | | 1 |
| Totals | 1 | | | | 25 | 32 | 13 | 13 | 8 | 5 | 1 | | 17 | 14 | 2 | 4 |

DEATHS REPORTED FROM THE NINE

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | | | | | | | 1 | | 1 | | | | | 1 | | |
| Billings | | | | | 1 | | | | | | | | 1 | 3 | | 1 |
| Bozeman | 1 | | | | | 1 | | | 1 | 1 | | | | | | |
| Butte | | | | | 8 | 12 | | 4 | 2 | | | | | | 1 | |
| Great Falls | | | | | 3 | 1 | | 1 | 1 | | | | 3 | 2 | 1 | 1 |
| Helena | | | | | 2 | 1 | 1 | | 2 | | | | | 2 | | |
| Kalispell | | | | | | 2 | | | | | | | | 1 | | |
| Livingston | | | | | | 2 | | | 1 | | | | | | | |
| Missoula | | | | | 1 | | 2 | | 1 | | | | 5 | | | |

TABLE XV.—Continued.

NOVEMBER.

| Whooping Cough. | | Pneumonia. | | Nephritis. | | Organic Heart Disease. | | Malignant Tumors | | Acute Intestinal Diseases. | | Violence. | | Suicide. | | Alcoholism. | | All other Causes. | | Totals. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1908. | 1909. | 1908. | 1909. | 1908. | 1909. | 1908. | 1909. | 1908. | 1909. | 1908. | 1909. | 1908. | 1909. | 1908. | 1909. | 1908. | 1909. | 1908. | 1909. | 1908. | 1909. |
| .... | ... | 1 | ... | ... | 1 | 1 | .... | .... | .... | 1 | 2 | 2 | 1 | ... | ... | .... | .... | 1 | 1 | 7 | 6 |
| .... | ... | ... | 1 | ... | ... | 1 | 1 | .... | 1 | .... | ... | ... | ... | ... | ... | .... | .... | 1 | .... | 2 | 4 |
| .... | ... | 2 | ... | ... | ... | ... | ... | .... | .... | .... | ... | 11 | 2 | ... | ... | .... | .... | 2 | 4 | 17 | 8 |
| .... | ... | 2 | 1 | ... | 2 | 1 | 2 | .... | .... | .... | ... | 2 | 3 | ... | 1 | 1 | .... | 6 | 10 | 21 | 24 |
| .... | ... | 1 | 1 | ... | ... | ... | ... | .... | .... | 1 | ... | 1 | 1 | ... | ... | ... | .... | .... | 1 | 4 | 3 |
| .... | ... | ... | ... | 1 | ... | ... | ... | .... | .... | 1 | ... | 1 | 1 | ... | 1 | ... | .... | 2 | 2 | 7 | 5 |
| .... | ... | ... | ... | 1 | ... | 1 | 1 | .... | 1 | .... | ... | ... | 1 | ... | ... | ... | .... | 1 | 3 | 3 | 11 |
| .... | ... | 4 | 2 | ... | ... | 2 | .... | .... | .... | .... | ... | 1 | ... | ... | 1 | ... | .... | 9 | 5 | 20 | 9 |
| .... | ... | ... | ... | ... | 1 | ... | ... | .... | .... | .... | ... | 1 | 1 | ... | ... | ... | .... | 2 | 2 | 4 | 5 |
| .... | ... | 1 | 1 | 1 | 2 | 2 | 2 | 1 | .... | 2 | ... | 4 | 1 | ... | ... | 1 | .... | 5 | 1 | 21 | 11 |
| .... | ... | 1 | 1 | 1 | 1 | .... | 1 | 1 | .... | .... | 1 | 2 | 1 | ... | ... | ... | .... | 1 | 4 | 8 | 11 |
| .... | ... | ... | 1 | 1 | ... | .... | .... | .... | .... | .... | ... | ... | ... | 1 | ... | ... | .... | 1 | 2 | 3 | 4 |
| .... | ... | ... | ... | ... | 1 | .... | .... | .... | .... | .... | ... | ... | ... | ... | ... | ... | 1 | 2 | 1 | 3 | 3 |
| .... | ... | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | ... | 3 | 1 | 1 | ... | 1 | .... | 8 | 14 | 27 | 23 |
| .... | ... | ... | ... | ... | ... | ... | 5 | .... | .... | .... | ... | ... | 1 | ... | ... | ... | .... | .... | .... | .... | 6 |
| .... | ... | 1 | ... | ... | ... | ... | 1 | .... | 1 | .... | ... | ... | 1 | ... | ... | ... | .... | 2 | 2 | 3 | 6 |
| .... | ... | ... | ... | ... | ... | ... | ... | .... | 1 | .... | ... | ... | ... | ... | ... | ... | .... | .... | 1 | 0 | 3 |
| .... | ... | 6 | 2 | 1 | 1 | 2 | 3 | 1 | 1 | .... | ... | 9 | 4 | ... | ... | 2 | 1 | 4 | 3 | 34 | 15 |
| .... | ... | ... | ... | 1 | 1 | 2 | ... | .... | 1 | .... | 1 | 1 | 1 | ... | ... | ... | .... | 4 | 5 | 9 | 11 |
| .... | ... | 1 | 2 | 1 | ... | ... | 2 | .... | 1 | 1 | ... | 2 | 2 | ... | ... | ... | .... | .... | .... | 5 | 9 |
| .... | ... | ... | 2 | ... | ... | ... | ... | 1 | ... | .... | ... | 1 | ... | ... | ... | 1 | .... | .... | 2 | 5 | 5 |
| .... | ... | ... | ... | ... | ... | 1 | ... | .... | .... | .... | 1 | ... | ... | ... | ... | ... | .... | 1 | .... | 2 | 2 |
| .... | ... | ... | ... | ... | ... | ... | 1 | .... | .... | .... | ... | 2 | 1 | ... | ... | ... | .... | .... | 1 | 2 | 4 |
| .... | ... | 5 | 7 | 5 | 5 | 10 | 4 | 5 | 1 | 2 | 1 | 10 | 8 | 2 | 1 | 2 | 2 | 21 | 15 | 81 | 68 |
| .... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... | ... | ... | ... | ... | ... | ... | .... | .... | 3 | 0 | 4 |
| .... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... | ... | 1 | 1 | ... | ... | 1 | .... | .... | 2 | 2 | 3 |
| .... | ... | ... | 1 | 1 | ... | ... | ... | .... | .... | .... | ... | 1 | ... | ... | ... | ... | .... | 1 | .... | 4 | 3 |
| .... | ... | 2 | 2 | 1 | ... | .... | 1 | 1 | 1 | .... | ... | 5 | 2 | ... | ... | 1 | .... | 3 | 8 | 15 | 19 |
| .... | ... | 28 | 26 | 17 | 16 | 24 | 25 | 11 | 10 | 11 | 6 | 60 | 34 | 4 | 4 | 10 | 4 | 77 | 92 | 309 | 285 |

PRINCIPAL CITIES IN MONTANA.

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .... | ... | 3 | 2 | ... | ... | 2 | .... | .... | .... | .... | ... | 1 | ... | ... | 1 | .... | .... | 4 | 1 | 12 | 5 |
| .... | ... | 2 | 1 | 1 | ... | .... | .... | .... | 1 | .... | ... | 2 | ... | ... | ... | 1 | .... | 3 | 8 | 11 | 14 |
| .... | ... | 1 | 1 | 1 | 1 | .... | .... | .... | .... | .... | ... | ... | ... | ... | ... | ... | .... | .... | 1 | 4 | 5 |
| .... | ... | 9 | 5 | 1 | 5 | 1 | 4 | 3 | 1 | .... | 1 | 5 | 4 | 1 | 1 | .... | 1 | 14 | 12 | 45 | 50 |
| .... | ... | 2 | 1 | ... | ... | 1 | 2 | .... | .... | .... | ... | 1 | 1 | ... | 1 | .... | .... | 5 | 6 | 17 | 16 |
| .... | ... | 1 | 2 | 2 | 1 | 1 | 5 | .... | 1 | 3 | ... | 2 | ... | ... | ... | 1 | .... | 7 | 11 | 22 | 23 |
| .... | ... | ... | ... | ... | 2 | .... | 2 | .... | .... | .... | ... | ... | ... | ... | ... | ... | .... | .... | .... | .... | 7 |
| .... | ... | ... | ... | ... | ... | 1 | ... | .... | 1 | .... | 1 | ... | ... | ... | ... | ... | .... | 1 | 3 | 3 | 7 |
| .... | ... | 6 | 1 | ... | 1 | 2 | 3 | 1 | 1 | .... | ... | 7 | 2 | ... | ... | 2 | 1 | 2 | 1 | 29 | 10 |

TABLE XV.—Continued.

DECEMBER.

| | Smallpox | | Spotted (Tick) Fever | | Tuberculosis | | Diphtheria | | Scarlet Fever | | Measles | | Typhoid Fever | | Meningitis | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 | 1908 | 1909 |
| Beaverhead | | | | | 1 | | | | 1 | | | | | | | |
| Broadwater | | | | | | | | | | | | | | | | |
| Carbon | | | | | 1 | 2 | 1 | | | | | | 1 | | | |
| Cascade | | | | | | 1 | 1 | 1 | 2 | | | | | 2 | | 2 |
| Chouteau | | | | | 1 | | | | | 1 | | | | | | |
| Custer | | | | | 1 | | | | | | | | 1 | | | 1 |
| Dawson | | | | | 1 | | 1 | 1 | | | | | 1 | | | |
| Deer Lodge | | | | | 1 | | | | | | | | | | | |
| Fergus | | | | | | | | | | | | | 2 | | | |
| Flathead | | | | | | 3 | | | | | | | | | | |
| Gallatin | | | | | 1 | 1 | | | | 1 | | | 1 | | | |
| Granite | | | | | | | | | | | | | | | | |
| Jefferson | | | | | 1 | 1 | 1 | | | | | | | | | |
| Lewis and Clark | | | | | 3 | 2 | | | | | | | | | | 2 |
| Lincoln | | | | | | 1 | | | | | | | | | | |
| Madison | | | | | | | | | | | | | | | 2 | |
| Meagher | | | | | | | | | | | | | | | | |
| Missoula | | | | | 1 | 2 | | | | | | | 3 | 1 | | 1 |
| Prak | | | | | | 1 | | | | | | | | | 1 | |
| Powell | | | | | | 2 | | | | | | | | 1 | | |
| Ravalli | | | | | | 1 | | | | 1 | | | | | | |
| Rosebud | | | | | | | | | | | | | | | | |
| Sanders | | | | | | | | | | | | | | | | |
| Silver Bow | | | | | 11 | 12 | | 3 | 6 | | | | | | 2 | 3 |
| Sweet Grass | | | | | | | | | | | | | | | | |
| Teton | | | | | | | | | | | | | | | | |
| Valley | | | | | | | | | | | | | | | | |
| Yellowstone | | | | | | 2 | | 1 | | | | | 1 | 2 | 1 | |
| Totals | | | | | 23 | 31 | 4 | 6 | 9 | 3 | | | 10 | 6 | 6 | 9 |

DEATHS REPORTED FROM THE NINE

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | | | | | | | | | | | | | | | | |
| Billings | | | | | | 1 | | 1 | | | | | 1 | 2 | 1 | |
| Bozeman | | | | | 1 | 1 | | | | 1 | | | 1 | | | |
| Butte | | | | | 7 | 6 | 2 | 1 | 2 | | | | 3 | | 1 | 1 |
| Great Falls | | | | | | 1 | | 1 | 2 | | | | | 2 | | 2 |
| Helena | | | | | 3 | 2 | | | | | | | | | | 2 |
| Kalispell | | | | | | 2 | | | | | | | | | | |
| Livingston | | | | | | 1 | | | | | | | | | | |
| Missoula | | | | | | 2 | | | | | | | 3 | 1 | | 1 |

TABLE XV.—Continued.

DECEMBER.

| Whooping Cough. | | Pneumonia. | | Nephritis. | | Organic Heart Disease. | | Malignant Tumors | | Acute Intestinal Diseases. | | Violence. | | Suicide. | | Alcoholism. | | All other Causes. | | Totals. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1908. | 1909. | 1908. | 1909. | 1908. | 1909. | 1908. | 1909. | 1908. | 1909. | 1908. | 1909. | 1908. | 1909. | 1908. | 1909. | 1908. | 1909. | 1908. | 1909. | 1908. | 1909. |
| .... | ... | 1 | 1 | 1 | ... | 1 | .... | 1 | .... | .... | ... | 1 | 2 | ... | ... | .... | .... | 1 | 2 | 8 | 5 |
| .... | ... | ... | 1 | ... | ... | 1 | .... | .... | .... | .... | ... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 |
| .... | ... | 2 | 1 | ... | ... | .... | .... | .... | .... | .... | ... | 6 | 1 | .... | .... | .... | .... | 4 | 4 | 15 | 8 |
| .... | ... | 3 | 1 | 1 | ... | .... | 2 | .... | 1 | .... | ... | 9 | 3 | 1 | 2 | 2 | 1 | 12 | 14 | 31 | 30 |
| .... | ... | ... | 2 | ... | 2 | .... | .... | .... | .... | .... | ... | 1 | ... | 1 | 2 | .... | .... | 1 | 2 | 4 | 9 |
| .... | ... | ... | 2 | ... | ... | .... | .... | 1 | .... | .... | ... | 1 | 3 | .... | .... | .... | 2 | 3 | 2 | 7 | 10 |
| .... | ... | 1 | 1 | ... | ... | .... | .... | .... | 2 | .... | ... | 3 | 2 | 1 | 1 | .... | 1 | .... | 3 | 8 | 11 |
| .... | ... | 3 | 7 | 1 | 2 | 3 | 1 | .... | 1 | .... | ... | .... | .... | .... | .... | .... | .... | 5 | 5 | 13 | 16 |
| .... | ... | ... | ... | ... | 1 | 1 | .... | .... | 1 | .... | ... | .... | .... | .... | 1 | .... | .... | 2 | 3 | 5 | 6 |
| .... | ... | 2 | 3 | ... | 1 | .... | 1 | .... | .... | 1 | 1 | 7 | .... | .... | .... | .... | .... | 1 | 5 | 11 | 14 |
| .... | ... | ... | 1 | 1 | 1 | .... | .... | 3 | .... | .... | ... | .... | .... | .... | .... | 1 | .... | 2 | 3 | 9 | 7 |
| .... | ... | 1 | 1 | ... | ... | 1 | .... | .... | .... | .... | ... | 1 | .... | .... | .... | .... | .... | 2 | .... | 5 | 1 |
| .... | ... | ... | 1 | 1 | ... | .... | .... | .... | .... | .... | ... | .... | 2 | .... | .... | .... | 2 | 1 | 2 | 4 | 8 |
| .... | ... | 3 | 3 | 2 | 1 | 2 | 1 | 1 | .... | .... | 1 | 3 | 1 | 1 | .... | .... | .... | 9 | 3 | 24 | 14 |
| .... | ... | ... | ... | ... | ... | .... | .... | .... | .... | .... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 |
| .... | 1 | 1 | ... | ... | ... | 1 | 1 | .... | .... | .... | ... | .... | .... | .... | .... | .... | .... | 4 | 2 | 8 | 4 |
| .... | ... | ... | ... | ... | ... | .... | .... | .... | .... | .... | ... | 2 | 3 | .... | 1 | 1 | .... | 3 | 1 | 6 | 5 |
| .... | ... | 4 | 2 | 1 | ... | 3 | 1 | 2 | 3 | .... | ... | 3 | 3 | 1 | .... | .... | 1 | 9 | 5 | 27 | 19 |
| .... | ... | 3 | 1 | 1 | 1 | .... | 2 | .... | .... | .... | 1 | ... | 2 | .... | .... | .... | 1 | 7 | 1 | 12 | 10 |
| .... | ... | 3 | 3 | 1 | ... | 1 | .... | .... | .... | .... | ... | 1 | 1 | .... | .... | .... | .... | 2 | 2 | 8 | 9 |
| 2 | ... | 2 | ... | ... | ... | .... | .... | .... | .... | .... | ... | 2 | 1 | .... | .... | .... | .... | 7 | 2 | 13 | 5 |
| .... | ... | ... | ... | ... | ... | .... | .... | .... | .... | .... | ... | 1 | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 |
| .... | ... | 1 | ... | 1 | ... | .... | .... | .... | .... | .... | ... | 3 | .... | .... | .... | .... | .... | .... | 1 | 5 | 1 |
| .... | 1 | 10 | 4 | 2 | 2 | 2 | 3 | 3 | 4 | 1 | 4 | 13 | 8 | 1 | 1 | .... | 1 | 20 | 23 | 71 | 69 |
| .... | ... | ... | 1 | ... | ... | .... | 1 | .... | .... | .... | ... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | 4 |
| .... | ... | ... | 2 | 1 | ... | .... | 1 | .... | .... | .... | ... | 1 | 2 | .... | .... | .... | .... | .... | 1 | 2 | 6 |
| 1 | ... | 2 | ... | 2 | ... | .... | 1 | .... | .... | 1 | ... | 1 | ... | 1 | .... | .... | .... | 1 | 2 | 9 | 3 |
| .... | ... | 2 | 1 | ... | ... | 2 | .... | 1 | 1 | 2 | ... | 2 | .... | .... | .... | .... | 1 | 5 | 4 | 16 | 12 |
| 3 | 2 | 44 | 39 | 16 | 11 | 18 | 15 | 12 | 13 | 5 | 7 | 61 | 34 | 7 | 8 | 4 | 10 | 101 | 95 | 323 | 289 |

PRINCIPAL CITIES IN MONTANA.

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .... | ... | 2 | 7 | 1 | 2 | 2 | 1 | .... | 1 | .... | ... | .... | .... | .... | .... | .... | .... | 1 | 3 | 6 | 14 |
| .... | ... | ... | 1 | ... | ... | 2 | .... | .... | .... | 1 | ... | 1 | .... | .... | .... | .... | 1 | 2 | 2 | 8 | 8 |
| .... | ... | ... | 1 | ... | 1 | .... | .... | 1 | .... | .... | ... | .... | .... | .... | .... | .... | .... | 1 | .... | 4 | 4 |
| .... | ... | 7 | 3 | 1 | 1 | 3 | 1 | 4 | 4 | 2 | 3 | 4 | 6 | ... | 1 | 1 | 1 | 22 | 11 | 59 | 39 |
| .... | ... | 2 | ... | 1 | ... | .... | 2 | .... | 1 | .... | .. | 8 | . | 1 | 2 | 2 | 1 | 8 | 12 | 24 | 24 |
| .... | ... | 2 | 3 | 2 | 1 | 1 | 1 | 1 | .... | .... | 1 | 1 | 1 | 1 | .... | .... | .... | 8 | 3 | 19 | 14 |
| .... | ... | ... | 3 | ... | 1 | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | 4 | .... | 11 |
| .... | ... | 2 | 1 | ... | ... | .... | 1 | .... | .... | .... | 1 | ... | 1 | .... | .... | .... | 1 | 4 | 1 | 6 | 7 |
| .... | ... | 3 | 1 | ... | ... | 2 | 1 | 2 | 3 | .... | ... | 2 | 1 | 1 | ... | .... | 1 | 7 | 2 | 20 | 13 |

TABLE XV.—Continued.

JANUARY.

| | Smallpox | | Spotted (Tick) Fever | | Tuberculosis | | Diphtheria | | Scarlet Fever | | Measles | | Typhoid Fever | | Meningitis | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 |
| Beaverhead | .... | .... | .... | .... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .... |
| Broadwater | .... | .... | .... | .... | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 1 | .... |
| Carbon | .... | .... | .... | .... | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Cascade | .... | .... | .... | .... | 4 | 1 | .. | 3 | 3 | .. | .. | .. | 2 | .. | 1 | .... |
| Chouteau | .... | .... | .... | .... | 1 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Custer | .... | .... | .... | .... | .. | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .... |
| Dawson | .... | .... | .... | .... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Deer Lodge | .... | .... | .... | .... | 1 | 1 | 1 | .. | 4 | .. | .. | .. | .. | .. | .. | .... |
| Fergus | .... | .... | .... | .... | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| Flathead | .... | .... | .... | .... | 2 | .. | 1 | .. | .. | 1 | .. | .. | 1 | .. | .. | .... |
| Gallatin | .... | .... | .... | .... | 1 | 1 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .... |
| Granite | .... | .... | .... | .... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Jefferson | .... | .... | .... | .... | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | .... |
| Lewis and Clark | .... | .... | .... | .... | .. | 2 | 2 | .. | .. | 1 | .. | .. | .. | 2 | .. | 2 |
| Lincoln | .... | .... | .... | .... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Madison | .... | .... | .... | .... | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Meagher | .... | .... | .... | .... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Missoula | .... | .... | .... | .... | 2 | 4 | 1 | .. | .. | .. | .. | .. | 2 | 1 | .. | .... |
| Park | .... | .... | .... | .... | 1 | 2 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .... |
| Powell | .... | .... | .... | .... | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .... |
| Ravalli | .... | .... | .... | .... | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Rosebud | .... | .... | .... | .... | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Sanders | .... | .... | .... | .... | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .... |
| Silver Bow | .... | .... | .... | .... | 8 | 20 | .. | 3 | 11 | 2 | .. | .. | .. | .. | 2 | 2 |
| Sweet Grass | .... | .... | .... | .... | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Teton | .... | .... | .... | .... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Valley | .... | .... | .... | .... | .. | 1 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .... |
| Yellowstone | .... | .... | .... | .... | 1 | 1 | 1 | 3 | .. | .. | .. | .. | .. | .. | .. | .... |
| Totals | .... | .... | .... | .... | 24 | 41 | 7 | 10 | 22 | 5 | .. | .. | 6 | 3 | 6 | 5 |

DEATHS REPORTED FROM THE NINE

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | .... | .... | .... | .... | .. | 1 | 1 | .. | 4 | .. | .. | .. | .. | .. | 1 | .... |
| Billings | .... | .... | .... | .... | 1 | 1 | 1 | 2 | .. | .. | .. | .. | .. | .. | .. | .... |
| Bozeman | .... | .... | .... | .... | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .... |
| Butte | .... | .... | .... | .... | 6 | 11 | .. | 2 | 8 | 2 | .. | .. | .. | .. | 2 | 2 |
| Great Falls | .... | .... | .... | .... | 3 | 1 | .. | 3 | 3 | .. | .. | .. | 2 | .. | .. | .... |
| Helena | .... | .... | .... | .... | .. | 2 | 1 | .. | .. | 1 | .. | .. | .. | 2 | .. | 1 |
| Kalispell | .... | .... | .... | .... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Livingston | .... | .... | .... | .... | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .... |
| Missoula | .... | .... | .... | .... | 2 | 2 | 1 | .. | .. | .. | .. | .. | 2 | 1 | .. | .... |

TABLE XV—Continued.

JANUARY.

| Whooping Cough. | | Pneumonia. | | Nephritis. | | Organic Heart Disease. | | Malignant Tumors | | Acute Intestinal Diseases. | | Violence. | | Suicide. | | Alcoholism. | | All other Causes. | | Totals. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. |
| .... | ... | ... | 2 | ... | ... | .... | 2 | .... | 1 | .... | ... | ... | ... | ... | ... | .... | .... | 1 | 2 | 2 | 7 |
| .... | ... | 2 | 1 | ... | ... | .... | .... | .... | .... | .... | ... | ... | .... | ... | ... | .... | .... | 1 | .... | 4 | 2 |
| .... | ... | 1 | 4 | 1 | 1 | 2 | .... | .... | .... | .... | ... | 2 | .... | 1 | .... | .... | .... | 4 | 2 | 10 | 9 |
| 2 | ... | 4 | 2 | ... | 1 | 4 | 3 | 2 | 1 | .... | ... | 3 | 2 | ... | 1 | 1 | .... | 9 | 16 | 35 | 30 |
| .... | ... | 3 | 1 | ... | ... | .... | 1 | .... | .... | .... | ... | 1 | 1 | ... | 1 | .... | .... | 1 | .... | 6 | 6 |
| .... | ... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | ... | .... | 1 | ... | 1 | .... | .... | .... | 3 | 1 | 7 |
| .... | ... | .... | 1 | .... | .... | 1 | .... | .... | 1 | .... | ... | 1 | 1 | ... | .... | .... | .... | 1 | 2 | 3 | 5 |
| .... | ... | 2 | 6 | 1 | 2 | 3 | .... | 1 | .... | .... | ... | 2 | 2 | ... | .... | .... | .... | 11 | 10 | 26 | 21 |
| .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | ... | 1 | 1 | ... | .... | .... | .... | 3 | 6 | 6 | 10 |
| .... | ... | 3 | .... | .... | 1 | 1 | .... | .... | 1 | 1 | ... | 6 | 5 | 1 | .... | .... | .... | 8 | 5 | 24 | 13 |
| .... | ... | 2 | 2 | 1 | 2 | .... | 2 | .... | 1 | .... | ... | 2 | .... | .... | .... | .... | .... | 5 | 8 | 12 | 16 |
| .... | ... | .... | 1 | .... | 1 | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | 3 |
| .... | ... | .... | .... | .... | .... | 1 | 1 | 2 | .... | .... | ... | 1 | 1 | .... | .... | .... | .... | .... | 2 | 6 | 4 |
| .... | ... | 8 | 1 | .... | 2 | 4 | 3 | 1 | 2 | .... | ... | 2 | 3 | .... | .... | 2 | .... | 6 | 8 | 25 | 26 |
| .... | ... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 |
| .... | ... | .... | 1 | .... | 1 | .... | 2 | .... | .... | .... | ... | .... | 1 | .... | .... | .... | .... | 3 | 3 | 4 | 9 |
| .... | ... | .... | 2 | .... | .... | .... | 1 | .... | .... | .... | ... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | 3 |
| .... | ... | 4 | 2 | 1 | 1 | 2 | 2 | .... | 1 | 1 | ... | 4 | 4 | .... | .... | .... | .... | 6 | 8 | 23 | 23 |
| .... | ... | 5 | 1 | ... | 3 | .... | 1 | .... | 1 | .... | ... | 1 | .... | .... | .... | .... | .... | 4 | 3 | 12 | 11 |
| .... | ... | 1 | .... | .... | .... | .... | 1 | .... | .... | .... | 2 | 1 | 1 | .... | .... | .... | .... | .... | 1 | 3 | 5 |
| .... | ... | 1 | 3 | 1 | .... | .... | 1 | .... | .... | .... | ... | .... | 1 | .... | .... | .... | 1 | 2 | 3 | 4 | 10 |
| .... | ... | .... | .... | .... | .... | .... | .... | .... | .... | .... | ... | .... | 1 | .... | .... | .... | .... | 1 | .... | 1 | 2 |
| .... | ... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | ... | 1 | .... | .... | .... | .... | .... | .... | .... | 3 | .... |
| .... | 2 | 14 | 5 | 7 | 5 | 6 | 5 | 3 | .... | 2 | ... | 8 | 4 | ... | 1 | 3 | 1 | 31 | 23 | 95 | 73 |
| .... | ... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | ... | .... | .... | .... | .... | .... | .... | 2 | 1 | 4 | 2 |
| 1 | ... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | ... | 2 | 1 | .... | .... | .... | .... | 1 | 1 | 5 | 2 |
| .... | ... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | ... | .... | .... | .... | .... | .... | .... | 2 | 1 | 4 | 2 |
| .... | ... | 1 | .... | .... | 1 | 2 | 5 | .... | 1 | .... | ... | 2 | 7 | 1 | 1 | .... | 3 | 8 | 8 | 16 | 30 |
| 3 | 3 | 54 | 36 | 12 | 21 | 28 | 31 | 10 | 10 | 4 | 3 | 40 | 31 | 2 | 6 | 6 | 5 | 112 | 116 | 336 | 332 |

PRINCIPAL CITIES IN MONTANA.

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .... | ... | ... | 5 | ... | 2 | 3 | .... | .... | .... | .... | ... | 2 | 2 | ... | ... | .... | .... | 6 | 4 | 17 | 14 |
| .... | ... | ... | .... | ... | 1 | .... | 4 | .... | 1 | .... | ... | ... | 3 | 1 | 1 | .... | 2 | 6 | 4 | 9 | 19 |
| .... | ... | ... | 1 | 1 | 2 | .... | 2 | .... | .... | .... | ... | 1 | .... | ... | ... | .... | .... | 2 | 6 | 6 | 11 |
| .... | 2 | 6 | 3 | 6 | 2 | 4 | 3 | .... | .... | .... | ... | 3 | 3 | ... | 1 | 2 | 1 | 21 | 15 | 58 | 47 |
| 1 | ... | 3 | 2 | ... | ... | 2 | 2 | 2 | .... | .... | ... | 3 | 2 | ... | 1 | 1 | .... | 6 | 9 | 26 | 20 |
| .... | ... | 6 | 1 | ... | 2 | 3 | 1 | 1 | 2 | .... | ... | 2 | .... | ... | ... | 2 | .... | 4 | 7 | 19 | 19 |
| .... | ... | .... | .... | .... | 1 | .... | .... | .... | 1 | .... | ... | .... | 1 | .... | .... | .... | .... | .... | 4 | .... | 7 |
| .... | ... | 3 | .... | .... | 1 | .... | .... | .... | 1 | .... | ... | .... | .... | .... | .... | .... | .... | 3 | 1 | 8 | 3 |
| .... | ... | 2 | 2 | 1 | 1 | 1 | 2 | .... | 1 | .... | ... | 1 | 2 | ... | ... | .... | .... | 4 | 7 | 14 | 18 |

TABLE XV—Continued.

FEBRUARY.

| | Smallpox | | Spotted (Tick) Fever | | Tuberculosis | | Diphtheria | | Scarlet Fever | | Measles | | Typhoid Fever | | Meningitis | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1908 | 1910 |
| Beaverhead | | | | | | 1 | | | | | | | | | | |
| Broadwater | | | | | | | | | | | | | | | | |
| Carbon | | | | | 1 | 1 | | | | | | | | | 1 | |
| Cascade | | | | | 2 | 2 | 1 | 1 | 3 | | | | 1 | | | |
| Chouteau | | | | | 1 | 2 | 1 | | 1 | | | | | | | |
| Custer | | | | | | | 1 | | 1 | 1 | | | 1 | | | |
| Dawson | | | | | 2 | | 1 | | | | | | | | 1 | 1 |
| Deer Lodge | | | | | 1 | 1 | | | 4 | | | | | | 1 | |
| Fergus | | | | | 2 | | | | | | | | | | | |
| Flathead | | | | | 2 | 1 | | | | | | | 1 | | 1 | 1 |
| Gallatin | | | | | | | | | | | | | | | 1 | |
| Granite | | | | | | | | | | | | | | | | |
| Jefferson | | | | | | | 1 | | | | | | | | | |
| Lewis and Clark | | | | | 2 | 1 | 2 | | 2 | 1 | | | | | | |
| Lincoln | | | | | | | | | | | | | | | | |
| Madison | | | | | | | | 1 | | | | | | | | |
| Meagher | | | | | | | | | | | | | | | | |
| Missoula | 1 | | | | 1 | | 2 | | | | | | 1 | | | 2 |
| Park | | | | | | | 3 | | | | | | | | | 1 |
| Powell | | | | | | | | | | | | | | | | |
| Ravalli | | | | | | | | | | | | | | | | |
| Rosebud | | | | | 1 | | | | | | | | | | | |
| Sanders | | | | | | | | | 1 | | | | | | | |
| Silver Bow | | | | | 12 | 12 | 1 | | 2 | 3 | | | 1 | | 4 | |
| Sweet Grass | | | | | | 1 | | | | | | | 1 | | | |
| Teton | | | | | | | | | | | | | | | | |
| Valley | | | | | | 1 | | | 1 | | | | | | | |
| Yellowstone | | | | | 3 | 2 | | 2 | | | | | | 1 | | |
| Totals | 1 | | | | 30 | 25 | 13 | 4 | 15 | 5 | | | 6 | 1 | 9 | 5 |

DEATHS REPORTED FROM THE NINE

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | | | | | 1 | 1 | | | 4 | | | | | | 1 | |
| Billings | | | | | 2 | 1 | | 2 | | | | | | 1 | | |
| Bozeman | | | | | | | | | | | | | | | | |
| Butte | | | | | 8 | 8 | 1 | | 1 | 2 | | | | | 3 | |
| Great Falls | | | | | | 2 | 1 | 1 | 2 | | | | 1 | | | |
| Helena | | | | | 2 | | 1 | | 2 | 1 | | | | | | |
| Kalispell | | | | | | 1 | | | | | | | | | | 1 |
| Livingston | | | | | | | 2 | | | | | | | | | 1 |
| Missoula | | | | | 1 | | | | | | | | 1 | | | 2 |

TABLE XV—Continued.

FEBRUARY.

| Whooping Cough. | | Pneumonia | | Nephritis | | Organic Heart Disease | | Malignant Tumors | | Acute Intestinal Diseases | | Violence | | Suicide | | Alcoholism | | All other Causes. | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 |
| .... | .... | .... | 1 | .... | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 6 |
| .... | .... | 1 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 3 | 0 |
| .... | .... | 2 | 2 | .... | .... | 1 | 1 | .... | 1 | .... | .... | 1 | 2 | 3 | .... | .... | .... | 5 | 3 | 12 | 12 |
| 1 | .... | 6 | 3 | 1 | .... | .... | 2 | 1 | 1 | .... | .... | 1 | 3 | 4 | .... | .... | 2 | 13 | 9 | 34 | 23 |
| .... | .... | 2 | .... | 1 | .... | .... | 1 | .... | .... | 1 | .... | 1 | .... | 2 | .... | .... | .... | 2 | 2 | 9 | 8 |
| .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | 4 | .... | 8 | 3 |
| .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 2 | .... | .... | .... | 1 | .... | 6 | 3 |
| .... | .... | 4 | 3 | 1 | .... | 1 | 2 | 1 | .... | .... | .... | 1 | 3 | 1 | 1 | .... | 1 | 10 | 13 | 28 | 22 |
| .... | .... | 2 | 2 | .... | .... | 1 | .... | 1 | .... | .... | .... | .... | 1 | .... | 1 | .... | .... | 4 | 2 | 12 | 4 |
| .... | .... | 3 | 2 | 1 | 2 | .... | .... | .... | .... | .... | .... | .... | 1 | 2 | .... | 1 | .... | 7 | 4 | 16 | 13 |
| .... | .... | 3 | 2 | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | 3 | 2 | 8 | 5 |
| .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 |
| .... | .... | .... | 2 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | 3 | 3 |
| .... | .... | 1 | 1 | 1 | 2 | 1 | 5 | 1 | 2 | .... | .... | .... | 4 | 5 | .... | 1 | 1 | .... | 9 | 7 | 24 | 25 |
| .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 3 | .... | 3 |
| .... | .... | .... | 2 | 2 | .... | 1 | .... | .... | .... | .... | .... | .... | 3 | 4 | .... | .... | .... | .... | .... | .... | 6 | 7 |
| .... | .... | .... | .... | .... | 1 | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 0 | 2 |
| .... | .... | 2 | 1 | 1 | 1 | .... | 1 | .... | .... | .... | .... | .... | 6 | 9 | 2 | 1 | 1 | 6 | 5 | 23 | 14 |
| .... | .... | 3 | .... | .... | 1 | 2 | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 6 | 4 | 14 | 7 |
| .... | .... | .... | 1 | .... | 3 | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | 2 | 3 | 3 | 8 |
| .... | .... | .... | 1 | 3 | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | .... | 1 | 1 | 1 | 2 | 6 | 5 |
| .... | .... | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 2 | .... | 6 | 0 |
| .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | 0 |
| .... | 1 | 5 | 8 | 6 | 2 | 4 | 7 | 2 | 5 | 2 | 3 | 1 | 3 | 2 | 3 | 4 | 1 | 16 | 15 | 62 | 63 |
| .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 2 | .... | 5 | 1 |
| .... | .... | 4 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | 2 | 2 | .... | 1 | .... | 2 | 1 | 10 | 3 |
| .... | 1 | 1 | .... | 1 | .... | 1 | 1 | .... | .... | 2 | .... | .... | 1 | .... | .... | .... | .... | .... | .... | 7 | 3 |
| .... | .... | 3 | 2 | .... | 1 | 2 | 2 | .... | .... | .... | 1 | 1 | 4 | .... | 1 | .... | .... | 7 | 2 | 16 | 18 |
| 1 | 2 | 47 | 33 | 19 | 16 | 16 | 24 | 8 | 10 | 5 | 8 | 32 | 39 | 6 | 8 | 11 | 3 | 105 | 79 | 324 | 262 |

PRINCIPAL CITIES IN MONTANA.

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .... | .... | 4 | 3 | 1 | .... | 1 | 1 | 1 | .... | .... | | 1 | 2 | 1 | 1 | .... | 1 | 1 | 5 | 9 | 22 | 17 |
| .... | .... | 1 | 1 | .... | .... | .... | 1 | .... | .... | .... | | 1 | 1 | 3 | .... | 1 | .... | .... | 4 | 1 | 8 | 12 |
| .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | | .... | .... | .... | .... | .... | .... | .... | 3 | 1 | 3 | 1 |
| .... | 1 | 5 | 7 | 3 | 2 | 2 | 5 | 2 | 3 | 2 | | 2 | .... | 2 | 1 | 2 | 1 | 1 | 10 | 10 | 39 | 45 |
| 1 | .... | 2 | 3 | 1 | .... | .... | 1 | 1 | 1 | .... | | 1 | 3 | 2 | .... | .... | 1 | .... | 9 | 8 | 22 | 19 |
| .... | .... | 1 | 1 | .... | 2 | .... | 5 | 1 | 1 | .... | | 1 | 3 | 1 | .... | .... | .... | .... | 8 | 6 | 18 | 18 |
| .... | .... | .... | 1 | .... | 2 | .... | .... | .... | .... | .... | | .... | .... | 1 | .... | 1 | .... | .... | .... | 4 | .... | 11 |
| .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | | .... | .... | .... | .... | .... | .... | .... | 3 | 3 | 6 | 4 |
| .... | .... | 2 | 1 | 1 | 1 | .... | 1 | .... | .... | .... | | .... | 3 | 2 | 1 | 1 | 1 | 1 | 4 | 3 | 14 | 12 |

TABLE XV.—Continued.

MARCH.

| | Smallpox | | Spotted (Tick) Fever | | Tuberculosis | | Diphtheria | | Scarlet Fever | | Measles | | Typhoid Fever | | Meningitis | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 |
| Beaverhead | | | | | | 1 | | | | | | | | | | |
| Broadwater | | | | | 1 | | | | | | | | | | | |
| Carbon | | | | | 1 | | | | | | | | | | | |
| Cascade | | | | | 1 | 2 | 2 | | 4 | | | | 1 | 1 | | |
| Chauteau | | | | | | | | | 1 | | | | | | 1 | |
| Custer | | | | | | | | | | | | | | 1 | | |
| Dawson | | | | | | 1 | | 1 | | | | | | | | |
| Deer Lodge | | | | | 2 | | | | 1 | | | | | | 1 | |
| Fergus | | | | | | | | | | | 1 | | 1 | | | |
| Flathead | | | | | 4 | 2 | 2 | | | | | | | | 1 | |
| Gallatin | | | | | | 1 | | | 1 | | | | 1 | | | 1 |
| Granite | | | | | | | | | | | | | | | | |
| Jefferson | | | | | | | | | | | | | | | | |
| Lewis and Clark | | | | | | 3 | 2 | | 2 | | | | | | | |
| Lincoln | | | | | | | | | | | | | | | | |
| Madison | | | | | 1 | | | 1 | | | | | 1 | | | |
| Meagher | | | | | | | | | | | | | | | | |
| Missoula | | | | 1 | 1 | 2 | 1 | | 1 | | | | 1 | | 1 | |
| Park | | | | | | 1 | | | 2 | | | 1 | | | 1 | 1 |
| Powell | | | | | | | | | | | | | | | | |
| Ravalli | | | 1 | 1 | 1 | 1 | 1 | | 1 | | | | | | | |
| Rosebud | | | | | | | | | | | | | | | | |
| Sanders | | | | | | | | | | | | | | | | |
| Silver Bow | 1 | | | | 20 | 14 | 1 | 1 | 4 | 1 | | | | 1 | 2 | 2 |
| Sweet Grass | | | | | 1 | | | | | | | | | | | |
| Teton | | | | | | | | | | | | 1 | | | | |
| Valley | | | | | | | | | | | | | | | | |
| Yellowstone | | | | | 2 | 1 | 1 | | | | | | 1 | 1 | | |
| Totals | 1 | | 1 | 2 | 35 | 29 | 10 | 3 | 17 | 1 | 1 | 2 | 6 | 4 | 7 | 4 |

DEATHS REPORTED FROM THE NINE

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | | | | | 2 | | | | 1 | | | | | | | |
| Billings | | | | | 2 | | | | 1 | | | | | 1 | | |
| Bozeman | | | | | | 1 | | | 1 | | | | | | | 1 |
| Butte | 1 | | | | 14 | 10 | 1 | | 4 | 1 | | | | | 1 | 1 |
| Great Falls | | | | | | 2 | 2 | | 3 | | | | 1 | 1 | | |
| Helena | | | | | | 3 | 2 | | 2 | | | | | | | |
| Kalispell | | | | | | 1 | | | | | | | | | | |
| Livingston | | | | | | 1 | | | 2 | | | 1 | | | 1 | |
| Missoula | | | | 1 | 1 | 2 | | | 1 | | | | 1 | | 1 | |

TABLE XV—Continued.

MARCH.

| Whooping Cough. | | Pneumonia. | | Nephritis. | | Organic Heart Disease. | | Malignant Tumors | | Acute Intestinal Diseases. | | Violence. | | Suicide. | | Alcoholism. | | All other Causes. | | Totals. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. |
| .... | ... | ... | ... | 1 | 3 | 1 | .... | .... | .... | .... | ... | ... | ... | ... | 1 | .... | 1 | .... | 3 | 2 | 9 |
| .... | ... | ... | ... | ... | ... | 1 | 1 | .... | .... | .... | ... | ... | 1 | ... | ... | .... | .... | 1 | ... | 3 | 2 |
| .... | 1 | 5 | 4 | 1 | 1 | .... | 1 | .... | .... | .... | ... | ... | 2 | 1 | 1 | .... | .... | 7 | 2 | 15 | 12 |
| .... | ... | 8 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | ... | 2 | 6 | ... | 1 | .... | .... | 7 | 10 | 29 | 26 |
| .... | 2 | 1 | ... | 1 | ... | .... | .... | .... | .... | .... | ... | 2 | ... | .... | .... | .... | .... | 5 | .... | 11 | 2 |
| .... | ... | ... | 1 | ... | ... | .... | 1 | .... | .... | .... | ... | 1 | ... | ... | 1 | .... | .... | 2 | 3 | 3 | 7 |
| .... | ... | 2 | ... | ... | ... | .... | .... | 1 | 1 | .... | ... | 1 | 1 | ... | ... | .... | .... | 2 | 2 | 6 | 6 |
| .... | ... | 1 | 2 | 2 | ... | 1 | .... | .... | .... | .... | 1 | ... | ... | .... | .... | 2 | .... | 10 | 5 | 20 | 8 |
| .... | 2 | ... | ... | ... | ... | 1 | .... | .... | .... | .... | ... | ... | ... | .... | .... | .... | .... | 2 | 5 | 5 | 7 |
| .... | ... | 5 | 1 | 1 | ... | 1 | 2 | .... | 1 | 2 | 1 | 1 | 3 | 1 | ... | .... | .... | 9 | 4 | 27 | 14 |
| .... | ... | 9 | 1 | 2 | 1 | 1 | .... | .... | 1 | .... | ... | ... | ... | ... | ... | .... | .... | 3 | 4 | 17 | 9 |
| .... | ... | 1 | ... | ... | ... | 1 | .... | .... | .... | .... | ... | 2 | ... | ... | ... | .... | .... | 1 | 1 | 5 | 1 |
| .... | ... | 1 | 1 | 1 | ... | 1 | 1 | .... | .... | .... | ... | 1 | 1 | ... | 1 | .... | .... | 4 | 1 | 8 | 5 |
| .... | ... | 4 | 3 | ... | 4 | 3 | 2 | 1 | .... | .... | ... | ... | ... | ... | ... | .... | .... | 9 | 4 | 21 | 16 |
| .... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | .... | ... | ... | ... | ... | 1 | .... | .... | .... | 2 | .... | 4 |
| .... | 1 | 3 | ... | 1 | ... | .... | 1 | .... | .... | .... | ... | 1 | ... | 1 | ... | .... | .... | 3 | 1 | 11 | 4 |
| .... | ... | ... | ... | ... | ... | .... | .... | .... | .... | .... | ... | ... | ... | ... | ... | .... | .... | .... | .... | 0 | 0 |
| .... | ... | 6 | 4 | 2 | ... | .... | 2 | 1 | 1 | 1 | 1 | 4 | 2 | ... | ... | .... | 1 | 9 | 9 | 28 | 23 |
| .... | ... | 2 | 2 | 2 | 1 | 1 | 1 | 1 | .... | 1 | ... | ... | 1 | ... | ... | .... | .... | 3 | 4 | 13 | 12 |
| .... | ... | 1 | ... | ... | ... | .... | .... | .... | 1 | .... | ... | ... | ... | ... | ... | .... | .... | 1 | 2 | 2 | 3 |
| .... | ... | 1 | ... | ... | ... | .... | 1 | .... | .... | .... | ... | ... | ... | ... | ... | 1 | 1 | 1 | 1 | 7 | 5 |
| .... | ... | ... | ... | ... | ... | .... | 1 | .... | .... | .... | ... | 1 | 1 | ... | ... | .... | .... | .... | .... | 1 | 2 |
| .... | ... | ... | ... | ... | ... | .... | .... | .... | .... | .... | ... | ... | 2 | ... | 1 | .... | .... | 1 | .... | 1 | 3 |
| 1 | ... | 10 | 7 | 1 | 4 | 7 | 7 | 6 | 5 | .... | 1 | 8 | 11 | 1 | ... | 2 | 2 | 15 | 19 | 79 | 75 |
| .... | ... | 1 | ... | ... | ... | 1 | .... | 1 | .... | .... | ... | 1 | ... | ... | ... | .... | .... | 5 | 3 | 10 | 3 |
| .... | ... | 2 | ... | ... | ... | .... | .... | 1 | .... | .... | ... | ... | ... | ... | ... | 1 | .... | 1 | 2 | 5 | 3 |
| .... | ... | 1 | ... | ... | ... | .... | .... | .... | .... | 1 | ... | ... | ... | ... | ... | .... | .... | 1 | 1 | 3 | 1 |
| .... | ... | 5 | 1 | 1 | 1 | 1 | 1 | .... | .... | 1 | ... | 2 | 1 | ... | ... | .... | .... | 7 | 4 | 21 | 10 |
| 1 | 6 | 69 | 29 | 17 | 17 | 22 | 23 | 13 | 12 | 7 | 4 | 27 | 32 | 4 | 7 | 6 | 5 | 109 | 92 | 353 | 272 |

PRINCIPAL CITIES IN MONTANA.

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .... | ... | 1 | 1 | 1 | ... | 2 | .... | 1 | .... | .... | 1 | ... | ... | ... | ... | 2 | .... | 1 | 2 | 11 | 4 |
| .... | ... | 2 | 1 | ... | 1 | .... | 1 | .... | .... | 1 | ... | 1 | ... | ... | ... | .... | .... | 6 | 3 | 13 | 7 |
| .... | ... | 4 | 1 | 2 | 1 | 1 | .... | .... | .... | .... | ... | ... | ... | ... | ... | .... | .... | 3 | 1 | 11 | 5 |
| .... | ... | 7 | 7 | 1 | 2 | 5 | 4 | 4 | 3 | .... | 1 | 1 | 5 | ... | ... | 1 | 1 | 8 | 16 | 48 | 51 |
| .... | ... | 4 | 2 | ... | 2 | 1 | 1 | 1 | 1 | 1 | ... | 1 | 4 | ... | 1 | .... | .... | 5 | 8 | 19 | 22 |
| .... | ... | 4 | 2 | ... | 3 | 2 | 1 | 1 | .... | .... | ... | ... | ... | ... | ... | .... | .... | 6 | 3 | 17 | 12 |
| .... | ... | ... | 1 | ... | ... | .... | 2 | .... | 1 | .... | ... | ... | ... | ... | ... | .... | .... | .... | 2 | .... | 7 |
| .... | ... | 2 | ... | 1 | ... | 1 | 1 | 1 | .... | .... | ... | ... | ... | ... | ... | .... | .... | 1 | 3 | 9 | 6 |
| .... | ... | 6 | 3 | 2 | ... | .... | 2 | 1 | .... | 1 | 1 | 1 | 1 | ... | ... | .... | .... | 7 | 8 | 22 | 18 |

TABLE XV—Continued.

APRIL.

| | Smallpox | | Spotted (Tick) Fever | | Tuberculosis | | Diphtheria | | Scarlet Fever | | Measles | | Typhoid Fever | | Meningitis | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 |
| Beaverhead | | | | | | | | | | | | | | | | |
| Broadwater | | | | | | | | | | 3 | | | | | | |
| Carbon | | | | | | | | | | | | 1 | | | | |
| Cascade | | | | | 2 | 1 | 2 | | 4 | | | | | | | 1 |
| Chouteau | | | | | | 2 | | 1 | 2 | | | 1 | | 1 | 1 | |
| Custer | | 1 | | | | | | | | | | | | | | |
| Dawson | | | | | | | 1 | | | | | | | | | |
| Deer Lodge | | | | | | | 2 | 1 | 2 | | | | | | | |
| Fergus | | | | | | | 2 | | | | 1 | | | | | |
| Flathead | | | | | 2 | 4 | | | | | | | | | | |
| Gallatin | | | | | 1 | | | | 2 | | | | | | 1 | |
| Granite | | | | | | | 1 | | | | 1 | | | | | |
| Jefferson | | | | | | 2 | | | | | | | | | | |
| Lewis and Clark | | | | | | 3 | | | 3 | | | | 1 | 1 | | |
| Lincoln | | | | | | | | | | | | | | | | |
| Madison | | | | | | 1 | | | 1 | | | | | | | |
| Meagher | | | | | | | 1 | | 1 | | | | | | | |
| Missoula | | | 1 | 2 | 2 | 1 | | | | | | | | 1 | 1 | |
| Park | | | | | 1 | 2 | | | | | | | | 1 | | |
| Powell | | | | | | 1 | | | | | | | | | | 1 |
| Ravalli | | | | 3 | | 2 | | | | | | | | | | |
| Rosebud | | | | | | | | | | | | | | | | |
| Sanders | | | | | | | | | 1 | | 1 | | | | | |
| Silver Bow | | | | | 5 | 13 | 1 | 1 | 5 | 4 | | | 1 | 1 | 1 | |
| Sweet Grass | | | | | 1 | | | 1 | | | | | | | | |
| Teton | | | | | | | 1 | | | | | | | | | |
| Valley | | | | | 1 | 1 | | | 3 | | | | | 1 | | |
| Yellowstone | | | | | | 2 | 1 | | | 2 | 1 | | | 1 | | |
| Totals | | 1 | 1 | 5 | 15 | 35 | 12 | 4 | 24 | 9 | 3 | 3 | 2 | 7 | 5 | 1 |

DEATHS REPORTED FROM THE NINE

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | | | | | | | 2 | 1 | 2 | | | | | | | |
| Billings | | | | | | 2 | | | | | 1 | | | 1 | | |
| Bozeman | | | | | | | | | 1 | | | | | | 1 | |
| Butte | | | | | 3 | 8 | 1 | | 4 | 4 | | | 1 | | 1 | |
| Great Falls | | | | | 1 | 1 | 2 | | 4 | | | | | | | |
| Helena | | | | | | 3 | | | 1 | | | | 1 | 1 | | |
| Kalispell | | | | | | 1 | | | | | | | | | | |
| Livingston | | | | | | 2 | | | | | | | | 1 | | |
| Missoula | | | 1 | 2 | 2 | 1 | | | | | | | | 1 | 1 | |

TABLE XV.—Continued.

APRIL.

| Whooping Cough. | | Pneumonia. | | Nephritis. | | Organic Heart Disease. | | Malignant Tumors | | Acute Intestinal Diseases. | | Violence. | | Suicide. | | Alcoholism. | | All other Causes. | | Totals. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. |
| .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | .... | 1 | 1 |
| .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 1 | 0 | 6 |
| .... | 1 | .... | 1 | .... | .... | .... | 3 | .... | 1 | .... | 1 | .... | 1 | .... | .... | .... | 3 | .... | 2 | 4 | 8 | 12 |
| .... | .... | 6 | 1 | 1 | 1 | 3 | .... | 1 | 2 | .... | 2 | .... | 5 | .... | .... | 1 | 3 | 11 | 7 | 34 | 20 |
| 1 | .... | 4 | 1 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 3 | 1 | 1 | .... | .... | 1 | 1 | 13 | 9 |
| .... | .... | .... | .... | .... | 1 | .... | .... | .... | 1 | .... | .... | .... | 1 | 2 | .... | .... | .... | 2 | 1 | 4 | 5 |
| .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 1 | 6 | 4 | 8 |
| .... | .... | 3 | 2 | .... | 1 | 3 | 1 | .... | 1 | .... | .... | .... | 1 | .... | .... | .... | 1 | 11 | 10 | 21 | 18 |
| .... | 1 | 4 | 2 | .... | .... | 1 | .... | 1 | 1 | .... | .... | 1 | .... | .... | .... | .... | 1 | 4 | 4 | 13 | 10 |
| .... | .... | 1 | 1 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 5 | .... | .... | 1 | .... | 4 | 3 | 15 | 9 |
| .... | .... | 3 | 1 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 3 | .... | .... | .... | .... | 6 | 6 | 16 | 8 |
| .... | .... | 2 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | 2 | 7 | 3 |
| .... | .... | .... | .... | 1 | .... | 1 | 2 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | 1 | .... | 4 | 4 |
| .... | .... | 4 | 2 | .... | 3 | 2 | 4 | .... | 3 | .... | .... | .... | 1 | 5 | 2 | .... | 2 | 12 | 4 | 27 | 25 |
| .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 3 | .... | .... | .... | .... | 3 | .... | 6 |
| .... | .... | 6 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | 1 | 10 | 2 |
| .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 3 | 2 |
| .... | .... | 5 | 2 | 1 | 4 | 2 | 3 | .... | 1 | .... | .... | .... | 5 | .... | 1 | .... | 1 | 8 | 9 | 27 | 23 |
| .... | .... | 1 | 1 | .... | 1 | 1 | 1 | .... | .... | .... | 1 | 1 | 1 | .... | 1 | 1 | 1 | 5 | 3 | 11 | 11 |
| .... | .... | 1 | 1 | 1 | .... | .... | 1 | 1 | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | 1 | 1 | 5 | 6 |
| .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | 5 | 3 | 7 | 9 |
| .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | 0 | 2 |
| .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 2 |
| 2 | 2 | 11 | 5 | 6 | 8 | 6 | 6 | 5 | 4 | .... | .... | .... | 6 | 10 | 1 | 1 | 6 | 24 | 22 | 80 | 77 |
| .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 2 | .... | 3 | 3 |
| .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | 1 | 3 |
| .... | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | 1 | 2 | 1 | 8 | 6 |
| .... | .... | 1 | 2 | .... | 3 | 1 | .... | .... | .... | 2 | 1 | 3 | .... | 1 | 1 | .... | .... | 3 | 6 | 9 | 22 |
| 3 | 4 | 54 | 27 | 12 | 23 | 21 | 27 | 11 | 13 | 5 | 4 | 30 | 39 | 8 | 3 | 17 | 6 | 109 | 101 | 332 | 312 |

PRINCIPAL CITIES IN MONTANA.

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .... | .... | 3 | 1 | .... | 1 | 3 | 1 | .... | 1 | .... | .... | .... | 1 | .... | .... | .... | 1 | 8 | 4 | 18 | 11 |
| .... | .... | 1 | 1 | .... | 2 | .... | .... | .... | .... | 2 | 1 | 1 | .... | 1 | .... | .... | .... | 2 | 4 | 5 | 14 |
| .... | .... | 1 | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 4 | 2 | 7 | 3 |
| .... | .... | 7 | 5 | 2 | 5 | 6 | 5 | 4 | 4 | .... | 3 | 4 | 1 | 1 | 3 | .... | .... | 18 | 11 | 54 | 47 |
| .... | .... | 5 | 1 | 1 | 1 | 3 | 2 | 1 | .... | 2 | .... | 3 | .... | .... | .... | 3 | 8 | 4 | 27 | 15 |
| .... | .... | 4 | 1 | .... | 2 | 2 | 2 | .... | 3 | .... | .... | 1 | 3 | 2 | .... | 1 | .... | 9 | 4 | 21 | 19 |
| .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 3 | .... | 5 |
| .... | .... | .... | 1 | .... | 1 | 1 | 1 | .... | .... | 1 | 1 | .... | .... | .... | 1 | .... | .... | 2 | 1 | 4 | 9 |
| .... | .... | 4 | 2 | 1 | 4 | .... | 2 | .... | 1 | .... | .... | 4 | .... | .... | .... | 1 | .... | 7 | 7 | 21 | 20 |

TABLE XV—Continued.

MAY.

| | Smallpox | | Spotted (Tick) Fever | | Tuberculosis | | Diphtheria | | Scarlet Fever | | Measles | | Typhoid Fever | | Meningitis | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 |
| Beaverhead | .... | .... | .... | .... | .. | 1 | 1 | 3 | ... | ... | ... | ... | ... | .... | .... | .... |
| Broadwater | .... | .... | .... | .... | .. | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Carbon | .... | .... | .... | .... | 1 | ... | 1 | ... | 1 | 1 | 1 | ... | 1 | .... | 1 | 1 |
| Cascade | .... | .... | .... | .... | .. | 3 | ... | 1 | 1 | ... | ... | ... | 1 | .... | 1 | .... |
| Chouteau | .... | .... | .... | .... | .. | 2 | 1 | 1 | ... | ... | ... | 1 | ... | .... | .... | .... |
| Custer | .... | .... | .... | .... | .. | 1 | ... | ... | ... | ... | ... | ... | 1 | .... | .... | .... |
| Dawson | .... | .... | .... | .... | .. | 1 | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Deer Lodge | .... | .... | .... | .... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | .... | .... | .... |
| Fergus | .... | .... | .... | .... | .. | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Flathead | .... | .... | .... | .... | .. | 2 | 1 | ... | ... | ... | ... | ... | 1 | .... | .... | .... |
| Gallatin | .... | .... | .... | .... | .. | 1 | ... | ... | ... | ... | ... | ... | .... | .... | 1 | .... |
| Granite | .... | .... | .... | .... | .. | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Jefferson | .... | .... | .... | .... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | .... | .... | .... |
| Lewis and Clark | .... | .... | .... | .... | 2 | 3 | 3 | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Lincoln | .... | .... | .... | .... | .. | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Madison | .... | .... | .... | .... | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | .... | .... | .... |
| Meagher | .... | .... | .... | .... | .. | 1 | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Missoula | .... | .... | 4 | .... | 4 | 1 | 1 | ... | 5 | ... | ... | ... | ... | .... | .... | 2 |
| Park | .... | .... | .... | .... | 1 | 2 | ... | ... | 1 | ... | ... | ... | ... | .... | .... | .... |
| Powell | .... | .... | .... | .... | 1 | 2 | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Ravalli | .... | .... | 3 | .... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Rosebud | .... | .... | .... | .... | .. | ... | 1 | ... | ... | ... | 1 | ... | ... | .... | .... | .... |
| Sanders | .... | .... | .... | .... | .. | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Silver Bow | .... | .... | .... | .... | 13 | 9 | 2 | ... | 5 | 1 | ... | ... | 3 | .... | 4 | 2 |
| Sweet Grass | .... | .... | .... | .... | .. | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Teton | .... | .... | .... | .... | .. | ... | ... | ... | 1 | 1 | ... | 1 | ... | .... | .... | 1 |
| Valley | .... | .... | .... | .... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Yellowstone | .... | .... | .... | .... | .. | ... | 1 | ... | ... | 2 | 2 | ... | ... | .... | 1 | .... |
| Totals | .... | .... | 7 | .... | 28 | 29 | 12 | 7 | 14 | 6 | 4 | 2 | 5 | 2 | 8 | 6 |

PRINCIPAL CITIES IN MONTANA.

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | .... | .... | .... | .... | .. | ... | ... | 1 | ... | ... | ... | ... | ... | .... | .... | .... |
| Billings | .... | .... | .... | .... | .. | ... | 1 | ... | ... | ... | 2 | ... | ... | .... | 1 | .... |
| Bozeman | .... | .... | .... | .... | .. | ... | ... | ... | ... | ... | ... | ... | ... | .... | 1 | .... |
| Butte | .... | .... | .... | .... | 7 | 7 | 2 | ... | 3 | 1 | ... | ... | 3 | .... | 3 | 2 |
| Great Falls | .... | .... | .... | .... | .. | 3 | ... | ... | 1 | ... | ... | ... | 1 | .... | 1 | .... |
| Helena | .... | .... | .... | .... | 1 | 2 | 1 | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Kalispell | .... | .... | .... | .... | .. | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | .... | .... |
| Livingston | .... | .... | .... | .... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | .... | .... | .... |
| Missoula | .... | .... | 4 | .... | 4 | 1 | ... | ... | 4 | ... | ... | ... | ... | .... | .... | 2 |

TABLE XV—Continued.

MAY.

| Whooping Cough. | | Pneumonia | | Nephritis | | Organic Heart Disease | | Malignant Tumors | | | Acute Intestinal Diseases | | Violence | | Suicide | | Alcoholism | | All other Causes. | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 |
| .... | .... | ... | 1 | 2 | ... | .... | 1 | .... | .... | .... | ... | ... | ... | 1 | ... | .... | .... | 3 | 1 | 7 | 7 |
| .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | ... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 0 |
| .... | .... | 2 | ... | 1 | 1 | .... | .... | 1 | .... | 1 | ... | .... | .... | .... | 1 | .... | .... | 7 | 4 | 18 | 8 |
| .... | 1 | 6 | ... | 1 | 2 | 1 | .... | 1 | .... | 1 | ... | 7 | 3 | .... | .... | 1 | 1 | 9 | 10 | 30 | 21 |
| .... | .... | 1 | 2 | 1 | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | 2 | 3 | 6 | 11 |
| .... | .... | .... | .... | 1 | .... | .... | 4 | .... | .... | .... | ... | .... | 1 | .... | .... | 1 | .... | .... | 4 | 2 | 11 |
| .... | .... | .... | 1 | .... | .... | .... | 1 | .... | .... | .... | ... | 1 | 3 | .... | .... | .... | 1 | 4 | 4 | 5 | 11 |
| .... | .... | 1 | 3 | ... | 2 | 1 | 1 | 1 | .... | 1 | ... | 3 | .... | .... | .... | 1 | .... | 5 | 7 | 14 | 14 |
| .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 2 | .... | 3 | 3 | 5 | 5 |
| .... | .... | 4 | .... | .... | 2 | 2 | 1 | .... | 3 | 2 | ... | .... | 6 | .... | 1 | .... | .... | 6 | 5 | 15 | 21 |
| .... | .... | 3 | 1 | 1 | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | .... | .... | .... | .... | 5 | 8 | 10 | 12 |
| .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | ... | 5 | .... | .... | .... | .... | .... | 1 | 1 | 6 | 1 |
| .... | .... | .... | .... | .... | 2 | .... | 2 | 1 | .... | 1 | ... | 1 | .... | .... | .... | .... | .... | 1 | 1 | 5 | 6 |
| .... | .... | 1 | 6 | 2 | .... | .... | 1 | .... | 1 | .... | ... | .... | 4 | .... | .... | 1 | .... | 7 | 7 | 16 | 22 |
| .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | ... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 2 |
| .... | .... | 2 | .... | 1 | .... | .... | 1 | 1 | .... | 1 | ... | 1 | .... | 1 | .... | .... | .... | 4 | 4 | 12 | 6 |
| .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | ... | 2 | 1 | .... | .... | .... | .... | 1 | .... | 3 | 3 |
| .... | .... | 4 | 1 | .... | 3 | 1 | .... | 2 | 3 | 1 | 1 | 5 | 3 | .... | .... | .... | .... | 8 | 4 | 35 | 18 |
| .... | .... | 1 | .... | .... | 1 | 1 | 2 | 1 | .... | 1 | ... | 1 | .... | .... | .... | 1 | .... | 2 | 7 | 16 | 12 |
| .... | .... | 1 | .... | .... | 2 | 1 | .... | 1 | .... | .... | ... | 1 | .... | .... | .... | 1 | .... | 1 | 2 | 7 | 6 |
| .... | .... | 2 | .... | .... | 1 | .... | 1 | .... | .... | .... | ... | .... | .... | .... | .... | 1 | .... | 3 | 3 | 10 | 5 |
| .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | ... | .... | .... | .... | .... | .... | 1 | .... | 3 | 3 | 3 |
| .... | .... | 1 | .... | .... | .... | .... | 1 | 1 | .... | .... | ... | .... | 1 | 1 | .... | .... | .... | .... | 1 | 3 | 3 |
| 1 | 2 | 10 | 8 | 3 | 4 | 5 | 3 | 5 | 1 | 3 | ... | 8 | 3 | 3 | 2 | 2 | 3 | 22 | 21 | 89 | 59 |
| 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | ... | 1 | 2 | .... | .... | .... | .... | 1 | 1 | 3 | 3 |
| .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | ... | 1 | .... | .... | .... | .... | .... | 2 | 1 | 4 | 5 |
| .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | ... | .... | 1 | .... | .... | .... | .... | 1 | .... | 4 | 1 |
| .... | .... | .... | 1 | 1 | .... | 1 | .... | 1 | .... | 1 | 3 | 2 | 2 | 1 | .... | .... | .... | 6 | 8 | 17 | 16 |
| 2 | 3 | 40 | 26 | 14 | 20 | 14 | 20 | 17 | 8 | 13 | 7 | 38 | 22 | 7 | 4 | 11 | 5 | 106 | 114 | 340 | 292 |

PRINCIPAL CITIES IN MONTANA.

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .... | .... | 1 | 2 | ... | 2 | 1 | .... | 1 | .... | 1 | ... | 3 | .... | .... | .... | 1 | .... | .... | 4 | 8 | 9 |
| .... | .... | .... | 1 | 1 | .... | 1 | .... | 1 | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | 5 | 7 | 10 | 10 |
| .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | 2 | 5 | 4 | 6 |
| 1 | 2 | 6 | 7 | 3 | 3 | 3 | 3 | 3 | 1 | 2 | ... | 2 | .... | 3 | 2 | 2 | 2 | 15 | 15 | 58 | 45 |
| .... | 1 | 2 | .... | 1 | 2 | .... | .... | .... | .... | .... | ... | 4 | 2 | .... | .... | 1 | 1 | 6 | 6 | 17 | 15 |
| .... | .... | 1 | 4 | 2 | .... | .... | .... | .... | 1 | .... | .... | .... | 1 | .... | .... | 1 | .... | 7 | 5 | 13 | 13 |
| .... | .... | .... | .... | .... | 1 | .... | 1 | .... | 2 | .... | .... | .... | 6 | .... | 1 | .... | .... | .... | 3 | .... | 16 |
| .... | .... | .... | .... | .... | .... | 1 | 2 | 1 | .... | 1 | .... | .... | .... | .... | .... | .... | .... | 1 | 5 | 5 | 7 |
| .... | .... | 3 | 1 | ... | 2 | 1 | .... | 2 | 3 | 1 | 1 | 3 | 1 | .... | .... | .... | .... | 6 | 3 | 28 | 14 |

TABLE XV—Continued.

JUNE.

| | Smallpox | | Spotted (Tick) Fever | | Tuberculosis | | Diphtheria | | Scarlet Fever | | Measles | | Typhoid Fever | | Meningitis | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1909 | 1910 | 1908 | 1910 |
| Beaverhead | | | | | 2 | 1 | | | | | | | | | | |
| Broadwater | | | | | | | | | | | | | | | | 2 |
| Carbon | | | | | | | | 1 | | | | | | | | |
| Cascade | | | | | 2 | | 1 | | 2 | 1 | | 1 | | 1 | | |
| Chouteau | | | | | | 2 | | | | | | | | | | |
| Custer | | | | | | | | | | | | | | | | 1 |
| Dawson | | | | | | | | | | | | | | | | |
| Deer Lodge | | | | | | | | | | | | | 1 | | | |
| Fergus | | | | | 1 | | | 2 | | | | | | | | |
| Flathead | | | | | 3 | | 1 | | 1 | 4 | | | | | | |
| Gallatin | | | | | 4 | | | 1 | 1 | | | | | 1 | | |
| Granite | | | | | | | | | | | | | | | | |
| Jefferson | | | | | | | | | | | | | | | | |
| Lewis and Clark | | | | | 2 | | | | 1 | | | | | | | 1 |
| Lincoln | | | | | | | | | | | | | | | | |
| Madison | | | | | | | | | 1 | | | | | | | |
| Meagher | | | | | 1 | | | | | 1 | | | | | | |
| Missoula | | | | | 2 | | 1 | | 3 | 1 | | | 1 | | 1 | |
| Park | | | | | | | | | | | | | | 2 | | |
| Powell | | | | | | | | | | | | | 1 | | | |
| Ravalli | | | 1 | 2 | | | | | | | | | 1 | | | |
| Rosebud | | | | | | | | | | | | | | | | |
| Sanders | | | | | | | | | | | | | | | | |
| Silver Bow | | | | | 9 | 9 | 2 | 2 | 2 | 7 | | | 2 | 3 | | |
| Sweet Grass | | | | | 1 | | | | | | | | | | | |
| Teton | | | | | | | | | | | | | | | | |
| Valley | | | | | 1 | 1 | | | 1 | | | | | 1 | | |
| Yellowstone | | | | | 1 | | 1 | | 1 | 1 | 1 | | 1 | | | |
| Totals | | | 1 | 2 | 29 | 13 | 6 | 6 | 13 | 15 | 1 | 1 | 7 | 8 | 1 | 4 |

DEATHS REPORTED FROM THE NINE

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | | | | | | | | | | | | | 1 | | | |
| Billings | | | | | | | | | 1 | | 1 | | 1 | | | |
| Bozeman | | | | | 2 | | | | 1 | | | | | | | |
| Butte | | | | | 6 | 6 | 2 | 1 | 2 | 6 | | | 2 | 3 | | |
| Great Falls | | | | | 2 | | 1 | | 2 | 1 | | | | 1 | | |
| Helena | | | | | 2 | | | | | | | | | | | 1 |
| Kalispell | | | | | | | | | | 3 | | | | | | |
| Livingston | | | | | | | | | | | | | | 1 | | |
| Missoula | | | | | 2 | | 1 | | 3 | 1 | | | 1 | | 1 | |

TABLE XV—Continued.

JUNE.

| | Whooping Cough. | | Pneumonia. | | Nephritis. | | Organic Heart Disease. | | Malignant Tumors | | Acute Intestinal Diseases. | | Violence. | | Suicide. | | Alcoholism. | | All other Causes. | | Totals. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. | 1909. | 1910. |
| | | | 1 | | | | | 1 | | | | | 2 | | | | | | 1 | 2 | 4 | 6 |
| | | | | | | | | | | 1 | | | | | | 1 | | | 2 | | 2 | 4 |
| | | 1 | 2 | 1 | 1 | 1 | 2 | 1 | | | 1 | | 2 | 2 | | | | 1 | 3 | 1 | 11 | 9 |
| | | | 1 | 1 | 2 | | 4 | 1 | 2 | 2 | | | 2 | 2 | 1 | 1 | | 1 | 15 | 17 | 32 | 28 |
| | | | | 1 | 1 | 2 | | | | | | | 2 | 4 | 1 | | | | 3 | 2 | 8 | 10 |
| | | | | 1 | | | 1 | 2 | | | | | | 1 | 1 | | | | 2 | | 4 | 4 |
| | | | 1 | 1 | | 1 | | 2 | | | | | | 2 | | | | | 1 | 2 | 5 | 7 |
| | | | 2 | | | | 1 | | | 1 | | | | 1 | 1 | | | 1 | 12 | 12 | 18 | 14 |
| | | | | | | | | | | | 1 | | 1 | | 1 | | | | 2 | 3 | 4 | 7 |
| | | | 1 | 1 | 2 | 2 | 3 | 2 | 3 | | 1 | | 1 | 4 | 7 | 1 | | | 8 | 2 | 28 | 19 |
| | | 1 | | 3 | | 2 | | 1 | | 2 | | | | 1 | 2 | | | 1 | 4 | 3 | 16 | 14 |
| | | | | | | | | 1 | | | | | 1 | 1 | 1 | | | | 2 | 2 | 4 | 4 |
| | | | | | | 1 | | | | | | | | 1 | 4 | 1 | | | 2 | | 4 | 5 |
| | | | 1 | | | 2 | 3 | 1 | 1 | 3 | | | | 1 | 1 | | | | 7 | 7 | 16 | 15 |
| | | | | | | | | | | | | | | | 7 | | | | | 2 | | 9 |
| | | 1 | | 1 | | 2 | | 1 | | 1 | | | | 3 | 1 | 1 | | | 3 | 2 | 10 | 7 |
| | | | 1 | | | | | | | | | | | | 1 | | 1 | | 2 | 3 | 4 | 6 |
| | | | 3 | 1 | 3 | | 1 | 3 | 2 | | | | 2 | 8 | 4 | 1 | 1 | 1 | 1 | 5 | 9 | 34 | 22 |
| | | | | 2 | 1 | 1 | 1 | 1 | | 1 | | | | 2 | | | | | 1 | 5 | 5 | 9 | 13 |
| | | | | | | | | | | | | | | 1 | | | | | 1 | | 2 | 3 |
| | | | | | | | | 1 | 1 | 1 | | | | 1 | 2 | | | | | 1 | 5 | 6 |
| | | | | | 1 | | | | | | | | | | | | | | | | 1 | 1 |
| | | | | | | | | | | 1 | | | | 4 | | | | | | | 4 | 1 |
| | 1 | | 5 | 10 | 4 | 3 | 3 | 6 | 3 | 3 | 3 | 4 | 8 | 10 | 6 | | 4 | 3 | 17 | 21 | 69 | 81 |
| | | | | | | | | | | | | | | | | | 1 | 1 | 1 | 1 | 3 | 2 |
| | | | | | | | | 1 | | | | | | 2 | | | | | | | 0 | 3 |
| | | | 1 | | | | 1 | 2 | | | | | 1 | 1 | | | | | | | 5 | 10 |
| | | | | | | 1 | 1 | | 1 | | 2 | 2 | 4 | 2 | 1 | 2 | 1 | | 8 | 5 | 23 | 13 |
| | 3 | 1 | 22 | 21 | 15 | 18 | 24 | 25 | 13 | 16 | 8 | 15 | 52 | 54 | 13 | 5 | 9 | 10 | 108 | 109 | 325 | 323 |

PRINCIPAL CITIES IN MONTANA.

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | | | | 1 | | | | | | | 1 | | | | 1 | | 6 | 4 | 12 | 4 |
| | | | | | 1 | | | 1 | | 2 | | 2 | 1 | 2 | 1 | 1 | | | 7 | 4 | 15 | 10 |
| | | 1 | 1 | | | | 1 | | 2 | | | | | | | | | | 1 | 3 | 5 | 7 |
| 1 | | 4 | 5 | 3 | 1 | 3 | 4 | 2 | 3 | 3 | | 2 | 6 | 4 | 5 | | 5 | 3 | 11 | 15 | 55 | 53 |
| | | 1 | 1 | 2 | | 2 | 1 | 2 | 1 | | | 2 | 1 | 1 | | | 1 | 1 | 11 | 12 | 24 | 21 |
| | | | | | 1 | 3 | | 1 | 3 | | | | 1 | | | | | | 5 | 4 | 12 | 9 |
| | | | | | | | 2 | | 6 | | | | | | | | | | | 1 | | 12 |
| | | | 1 | 1 | 1 | 1 | 1 | | 1 | | | | | | | | | 1 | 3 | 2 | 5 | 8 |
| | | 2 | | 3 | | 1 | 1 | 2 | | | | 2 | 2 | 1 | | 1 | 1 | | 6 | 6 | 25 | 12 |

TABLE XV—Continued.

TOTALS.

| | Smallpox | | Spotted (Tick) Fever | | Tuberculosis | | Diphtheria | | Scarlet Fever | | Measles | | Typhoid Fever | | Meningitis | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1908–09 | 1909–10 | 1908–09 | 1909–10 | 1908–09 | 1909–10 | 1908–09 | 1909–10 | 1908–09 | 1909–10 | 1908–09 | 1909–10 | 1908–09 | 1909–10 | 1908–09 | 1909–10 |
| Beaverhead | | | | | 3 | 7 | 2 | 4 | 1 | | | | 1 | | 2 | |
| Broadwater | | | | | 1 | 1 | | | | 4 | | | | | 1 | 2 |
| Carbon | | | | | 7 | 9 | 9 | 2 | 1 | 2 | 1 | 2 | 7 | 4 | 5 | 3 |
| Cascade | | | | | 18 | 20 | 11 | 12 | 21 | 4 | | 1 | 12 | 12 | 4 | 4 |
| Chouteau | | | | | 8 | 12 | 4 | 5 | 4 | 1 | | 2 | 2 | 3 | 2 | |
| Custer | | 1 | | | 2 | 6 | 3 | 1 | 1 | 1 | | | 6 | 3 | 1 | 2 |
| Dawson | | | | | 5 | 5 | 3 | 7 | | 1 | | | 1 | 3 | 2 | 2 |
| Deer Lodge | | | | | 13 | 4 | 9 | 2 | 12 | | | | 4 | 1 | 2 | |
| Fergus | | | | | 7 | 3 | 2 | 2 | | | 4 | | 5 | 1 | | 1 |
| Flathead | | | | | 23 | 16 | 9 | 1 | 1 | 5 | 1 | | 9 | 5 | 2 | 3 |
| Gallatin | 1 | | | | 9 | 7 | 1 | 1 | 6 | 4 | | | 3 | 4 | 3 | 1 |
| Granite | | | | | 1 | 1 | 1 | | | | 1 | | | | | 1 |
| Jefferson | | | | | 3 | 3 | 5 | 1 | | | | | | | 1 | |
| Lewis and Clark | | | | | 20 | 18 | 12 | 1 | 11 | 4 | | | 1 | 8 | | 5 |
| Lincoln | | | | | | 1 | | 1 | | 1 | | | | 1 | | |
| Madison | | | | | 5 | 4 | | 2 | 2 | 1 | | | 2 | 1 | 2 | |
| Meagher | | | | | 2 | 2 | 1 | | 1 | 1 | | | | | | 1 |
| Missoula | 1 | | 5 | 5 | 21 | 14 | 12 | 3 | 11 | 2 | | | 32 | 7 | 4 | 7 |
| Park | | | | | 6 | 13 | 4 | | 6 | | | 1 | 1 | 5 | 2 | 3 |
| Powell | | | | | 2 | 6 | | | | 1 | | | 3 | 2 | | 1 |
| Ravalli | | | 7 | 7 | 4 | 5 | 1 | 1 | 1 | 2 | | | 2 | 1 | | |
| Rosebud | | | | | 3 | 2 | 1 | 1 | | 1 | 1 | | | 1 | | |
| Sanders | | | | | 1 | | 1 | | 3 | 1 | | 1 | | | | |
| Silver Bow | 1 | | | | 130 | 166 | 17 | 23 | 52 | 18 | | | 22 | 14 | 22 | 15 |
| Sweet Grass | | | | | 6 | 3 | | 1 | | 3 | | | 3 | | | |
| Teton | | | | | | 1 | 1 | 1 | 1 | 1 | | 2 | | 1 | | 2 |
| Valley | | | | | 6 | 4 | | 2 | 6 | | 1 | | 1 | 5 | | |
| Yellowstone | | | | | 14 | 17 | 7 | 9 | 1 | 5 | 4 | | 6 | 13 | 2 | 1 |
| Totals | 3 | 1 | 12 | 12 | 320 | 350 | 116 | 83 | 142 | 63 | 13 | 9 | 123 | 95 | 57 | 54 |

Estimated population 350,000.
Annual Death Rate per 1,000, 1908–09, 11.40.
Annual Death Rate per 1,000, 1909–10, 10.38.

DEATHS REPORTED FROM THE NINE

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anaconda | | | | | 9 | 2 | 9 | 2 | 12 | | | | 2 | 1 | 1 | |
| Billings | | | | | 11 | 12 | 4 | 8 | 1 | | 4 | | 6 | 10 | 2 | 1 |
| Bozeman | 1 | | | | 4 | 4 | 1 | | 5 | 3 | | | 1 | 1 | 2 | 1 |
| Butte | 1 | | | | 90 | 102 | 11 | 14 | 35 | 16 | | | 16 | 11 | 15 | 9 |
| Great Falls | | | | | 13 | 19 | 9 | 11 | 19 | 3 | | | 12 | 10 | 2 | 4 |
| Helena | | | | | 19 | 16 | 7 | 1 | 8 | 2 | | | 1 | 7 | | 4 |
| Kalispell | | | | | | 8 | | 1 | | 3 | | | | 3 | | 2 |
| Livingston | | | | | 2 | 7 | 3 | | 5 | | | 1 | | 3 | 1 | 2 |
| Missoula | | | 5 | 5 | 20 | 11 | 7 | 1 | 9 | 1 | | | 28 | 7 | 4 | 7 |

TABLE XV—Continued.

TOTALS.

| | Whooping Cough. | | Pneumonia | | Nephritis | | Organic Heart Disease | | Malignant Tumors | | Acute Intestinal Diseases | | Violence | | Suicide | | Alcoholism | | All other Causes. | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1908–09 | 1909–10 | 1908–09 | 1909–10 | 1908–09 | 1909–10 | 1908–09 | 1909–10 | 1908–09 | 1909–10 | 1908–09 | 1909–10 | 1908–09 | 1909–10 | 1908–09 | 1909–10 | 1908–09 | 1909–10 | 1908–09 | 1909–10 | 1908–09 | 1909–10 |
| Apache | .... | ... | 5 | 8 | 4 | 8 | 7 | 4 | 2 | 3 | 1 | 4 | 7 | 11 | 1 | 1 | .... | 3 | 16 | 17 | 52 | 70 |
| Cochise | .... | ... | 3 | 5 | 1 | ... | 5 | 3 | 2 | 3 | 4 | 3 | 1 | 6 | 1 | 1 | 1 | 1 | 11 | 5 | 31 | 34 |
| Coconino | .... | 3 | 19 | 15 | 5 | 5 | 7 | 6 | 1 | 3 | 12 | 13 | 36 | 18 | 1 | 4 | 4 | 1 | 43 | 41 | 158 | 131 |
| Gila | 3 | 1 | 44 | 13 | 10 | 10 | 22 | 17 | 11 | 10 | 14 | 13 | 45 | 41 | 5 | 7 | 10 | 8 | 110 | 131 | 340 | 304 |
| Graham | 1 | 2 | 13 | 9 | 7 | 5 | 2 | 5 | 2 | .... | 4 | 8 | 23 | 11 | 4 | 4 | 1 | .... | 23 | 18 | 100 | 85 |
| Greenlee | .... | 1 | 3 | 5 | 3 | 3 | 5 | 9 | 3 | .... | 4 | 9 | 9 | 20 | ... | 5 | 1 | 4 | 19 | 23 | 60 | 93 |
| Maricopa | .... | ... | 6 | 5 | 3 | 1 | 4 | 6 | 2 | 6 | 3 | 1 | 16 | 19 | 2 | 3 | .... | 4 | 17 | 34 | 64 | 97 |
| Mohave | .... | ... | 22 | 28 | 6 | 9 | 21 | 6 | 4 | 4 | 8 | 6 | 17 | 12 | 1 | 1 | 7 | 2 | 109 | 88 | 235 | 163 |
| Navajo | .... | 4 | 10 | 6 | ... | 3 | 3 | 2 | 5 | 4 | 3 | 7 | 10 | 7 | 4 | 1 | 2 | 1 | 33 | 40 | 88 | 82 |
| Pima | .... | ... | 23 | 10 | 8 | 11 | 15 | 12 | 10 | 8 | 17 | 11 | 43 | 32 | 4 | 3 | 6 | .... | 69 | 42 | 240 | 159 |
| Pinal | 1 | 1 | 26 | 14 | 9 | 11 | 4 | 9 | 8 | 5 | 6 | 11 | 19 | 7 | 1 | 1 | 2 | .... | 41 | 51 | 140 | 127 |
| Santa Cruz | .... | ... | 4 | 4 | 5 | 1 | 4 | .... | .... | 1 | 1 | 2 | 13 | 2 | 1 | ... | 1 | .... | 12 | 11 | 44 | 23 |
| Yavapai | .... | ... | 1 | 4 | 4 | 5 | 4 | 8 | 4 | 2 | 4 | 4 | 10 | 11 | 2 | 1 | .... | 3 | 17 | 8 | 55 | 50 |
| Yuma | .... | 1 | 27 | 20 | 14 | 22 | 27 | 26 | 10 | 15 | 11 | 9 | 22 | 34 | 10 | 2 | 9 | 1 | 97 | 82 | 271 | 248 |
| Apache | .... | ... | .... | 1 | .... | .... | .... | 6 | .... | 1 | .... | 2 | .. | 13 | ... | 1 | .... | .... | .... | 11 | .... | 39 |
| Cochise | 1 | 4 | 15 | 4 | 4 | 4 | 6 | 7 | 3 | 4 | 4 | 5 | 13 | 10 | 3 | 1 | .... | .... | 29 | 25 | 89 | 72 |
| Coconino | .... | ... | 2 | 5 | ... | 2 | 2 | 3 | .... | 2 | .... | 1 | 9 | 8 | 1 | 2 | 2 | 1 | 9 | 10 | 29 | 38 |
| Gila | .... | ... | 42 | 18 | 13 | 13 | 14 | 25 | 12 | 15 | 15 | 10 | 72 | 49 | 8 | 7 | 10 | 8 | 95 | 78 | 367 | 263 |
| Graham | .... | ... | 16 | 8 | 6 | 13 | 9 | 9 | 4 | 4 | 8 | 11 | 10 | 12 | 1 | 2 | 2 | 5 | 48 | 36 | 123 | 122 |
| Greenlee | .... | ... | 10 | 11 | 4 | 7 | 3 | 7 | 5 | 2 | 3 | 4 | 13 | 15 | 1 | ... | 2 | 1 | 11 | 17 | 57 | 74 |
| Maricopa | 2 | ... | 9 | 6 | 4 | 3 | 1 | 6 | 5 | 2 | 7 | 1 | 8 | 6 | 3 | 1 | 4 | 2 | 26 | 26 | 84 | 69 |
| Mohave | .... | ... | 5 | ... | 1 | 1 | 1 | 1 | .... | 2 | .... | 2 | 4 | 3 | 1 | ... | .... | .... | 6 | 8 | 23 | 22 |
| Navajo | .... | ... | 4 | ... | 1 | 2 | 1 | 3 | 1 | 1 | 1 | 3 | 22 | 6 | 1 | 3 | 1 | .... | 2 | 6 | 39 | 26 |
| Pima | 5 | 16 | 91 | 76 | 46 | 41 | 64 | 59 | 44 | 37 | 45 | 60 | 94 | 92 | 19 | 13 | 33 | 17 | 256 | 230 | 941 | 877 |
| Pinal | 1 | ... | 5 | 2 | 1 | ... | 1 | 1 | 1 | 1 | .... | 1 | 5 | 5 | ... | 1 | 2 | 1 | 13 | 17 | 38 | 36 |
| Santa Cruz | 1 | ... | 6 | 2 | 1 | ... | 2 | 5 | 2 | .... | .... | 5 | 10 | 12 | ... | ... | 3 | 1 | 8 | 18 | 35 | 51 |
| Yavapai | 1 | 1 | 6 | 2 | 5 | 1 | 4 | 5 | 2 | .... | 9 | 3 | 18 | 10 | 2 | ... | .... | 2 | 15 | 19 | 76 | 54 |
| Yuma | .... | 2 | 17 | 12 | 7 | 11 | 13 | 10 | 5 | 7 | 12 | 28 | 47 | 35 | 5 | 7 | 4 | 5 | 68 | 64 | 212 | 226 |
| | 16 | 36 | 434 | 293 | 172 | 192 | 251 | 260 | 148 | 142 | 196 | 246 | 596 | 500 | 82 | 72 | 107 | 71 | 1203 | 1156 | 3991 | 3635 |

PRINCIPAL CITIES IN MONTANA.

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Billings | .... | ... | 17 | 23 | 5 | 9 | 18 | 4 | 4 | 3 | 8 | 5 | 16 | 10 | 1 | 1 | 7 | 2 | 51 | 44 | 160 | 106 |
| Butte | .... | 1 | 8 | 9 | 4 | 9 | 5 | 7 | 2 | 5 | 9 | 23 | 16 | 17 | 2 | 5 | 1 | 4 | 48 | 47 | 123 | 158 |
| Great Falls | .... | ... | 8 | 7 | 5 | 9 | 2 | 5 | 4 | 4 | 1 | 1 | 5 | 2 | 1 | ... | .... | .... | 23 | 26 | 63 | 63 |
| Helena | 2 | 9 | 60 | 61 | 31 | 29 | 48 | 40 | 34 | 31 | 29 | 35 | 43 | 51 | 14 | 11 | 20 | 13 | 176 | 155 | 625 | 587 |
| Missoula | 2 | 1 | 26 | 12 | 9 | 7 | 15 | 15 | 10 | 6 | 12 | 7 | 33 | 25 | 3 | 7 | 6 | 8 | 82 | 94 | 253 | 229 |
| Anaconda | .... | ... | 22 | 16 | 12 | 18 | 17 | 21 | 8 | 14 | 10 | 6 | 15 | 9 | 7 | 2 | 7 | 1 | 77 | 64 | 208 | 181 |
| Boulder | .... | .... | .... | 6 | ... | 8 | .... | 8 | .... | 5 | .... | 6 | ... | 16 | ... | 3 | .... | .... | .... | 32 | .... | 101 |
| Deer Lodge | .... | .... | 7 | 3 | 3 | 3 | 6 | 7 | 2 | 4 | 6 | 6 | 2 | 5 | ... | 1 | .... | 5 | 25 | 22 | 62 | 69 |
| Lewis and Clark | .... | ... | 32 | 13 | 11 | 11 | 10 | 20 | 10 | 14 | 11 | 14 | 28 | 15 | 4 | 4 | 8 | 3 | 67 | 56 | 254 | 182 |

## TABLE XVI.

BIRTHS REPORTED TO THE STATE BOARD OF HEALTH DURING THE TWO YEARS ENDING JUNE 30, 1910.

| Counties. | Males 1908–9..... | Males 1909–10..... | Females 1908–9.... | Females 1909–10.. | Totals 1908–9..... | Totals 1909–10.... |
|---|---|---|---|---|---|---|
| Beaverhead | 48 | 52 | 51 | 61 | 99 | 113 |
| Broadwater | 33 | 30 | 21 | 26 | 54 | 56 |
| Carbon | 179 | 186 | 149 | 150 | 328 | 336 |
| Cascade | 306 | 358 | 289 | 307 | 595 | 665 |
| Chouteau | 76 | 82 | 81 | 76 | 157 | 158 |
| Custer | 63 | 81 | 80 | 97 | 143 | 178 |
| Dawson | 75 | 124 | 66 | 102 | 141 | 226 |
| Deer Lodge | 119 | 115 | 113 | 120 | 232 | 235 |
| Fergus | 106 | 132 | 106 | 147 | 212 | 279 |
| Flathead | 194 | 200 | 169 | 183 | 363 | 383 |
| Gallatin | 132 | 86 | 134 | 78 | 266 | 164 |
| Granite | 30 | 22 | 42 | 16 | 72 | 38 |
| Jefferson | 47 | 39 | 38 | 29 | 85 | 68 |
| Lewis and Clark | 161 | 171 | 164 | 157 | 325 | 328 |
| * Lincoln | ..... | 31 | ..... | 23 | ..... | 54 |
| Madison | 47 | 84 | 76 | 56 | 123 | 140 |
| Meagher | 34 | 17 | 17 | 18 | 51 | 35 |
| Missoula | 171 | 265 | 155 | 219 | 326 | 424 |
| Park | 121 | 134 | 130 | 111 | 251 | 245 |
| Powell | 23 | 40 | 29 | 39 | 52 | 79 |
| Ravalli | 115 | 98 | 102 | 105 | 217 | 203 |
| Roseb;ud | 43 | 39 | 35 | 26 | 78 | 65 |
| Sanders | 28 | 21 | 25 | 25 | 53 | 46 |
| Silver Bow | 607 | 526 | 530 | 481 | 1137 | 1007 |
| Sweet Grass | 40 | 46 | 26 | 37 | 66 | 83 |
| Teton | 22 | 24 | 20 | 24 | 42 | 48 |
| Valley | 87 | 86 | 70 | 62 | 157 | 148 |
| Yellowstone | 199 | 254 | 197 | 236 | 396 | 490 |
| Total Births | 3106 | 3283 | 2915 | 3011 | 6021 | 6294 |
| Total Deaths | ..... | ..... | ..... | ..... | 4241 | 3911 |
| Excess of Births over Deaths | ..... | ..... | ..... | ..... | 1780 | 2383 |

### BIRTHS REPORTED FROM NINE PRINCIPAL CITIES.

| | | | | | | |
|---|---|---|---|---|---|---|
| Anaconda | 116 | 112 | 99 | 120 | 215 | 232 |
| Billings | 119 | 139 | 123 | 160 | 242 | 299 |
| Bozeman | 73 | 82 | 68 | 91 | 141 | 173 |
| Butte | 485 | 378 | 400 | 344 | 885 | 842 |
| Great Falls | 207 | 246 | 214 | 216 | 441 | 462 |
| Helena | 119 | 141 | 124 | 124 | 243 | 265 |
| ** Kalispell | ..... | 100 | ..... | 86 | ..... | 186 |
| Livingston | 85 | 95 | 84 | 70 | 169 | 165 |
| Missoula | 134 | 138 | 121 | 143 | 255 | 281 |

* Lincoln County was part of Flathead County in 1908–9.
** Kalispell was not classed as a City of 5,000 until 1909.